Maricopa County Air Quality
&
The Arizona
Environmental Strategic Alliance

Present:

Air Quality Permit and Compliance Assistance Seminar

Maricopa County
Air Quality Department

Arizona
Environmental
Strategic
Alliance

Arizona Environmental Strategic Alliance

MISSION

The Arizona Environmental Strategic Alliance will protect and conserve Arizona's environment, encourage innovative environmental actions through leadership, mentoring, and sustainability practices, and showcase the economic benefit of going beyond compliance.

Arizona Environmental Strategic Alliance

Members and partner organizations

- Intel
- PING
- Arlington Valley Energy Facility
- Honeywell
- Maricopa County Air Quality Department
- Pinal County Air Quality Department
- US EPA Region 9
- Arizona Department of Environmental Quality

Maricopa County
Air Quality Department

Mission:

To provide clean air to Maricopa County residents and visitors so they can live, work and play in a healthy environment.

Agenda

- **Morning Session:**
  - Director Philip McNeely - AQ
  - Planning - AQ
  - Permitting - AQ
  - Air Permit Review - Honeywell
  - Outreach - AQ
  - Improving your Emissions Calculations - Intel

LUNCH - Networking

- **Afternoon Session:**
  - Starting a New Chemical Process - Ping
  - Monitoring - AQ
  - Compliance - AQ
  - Q & A

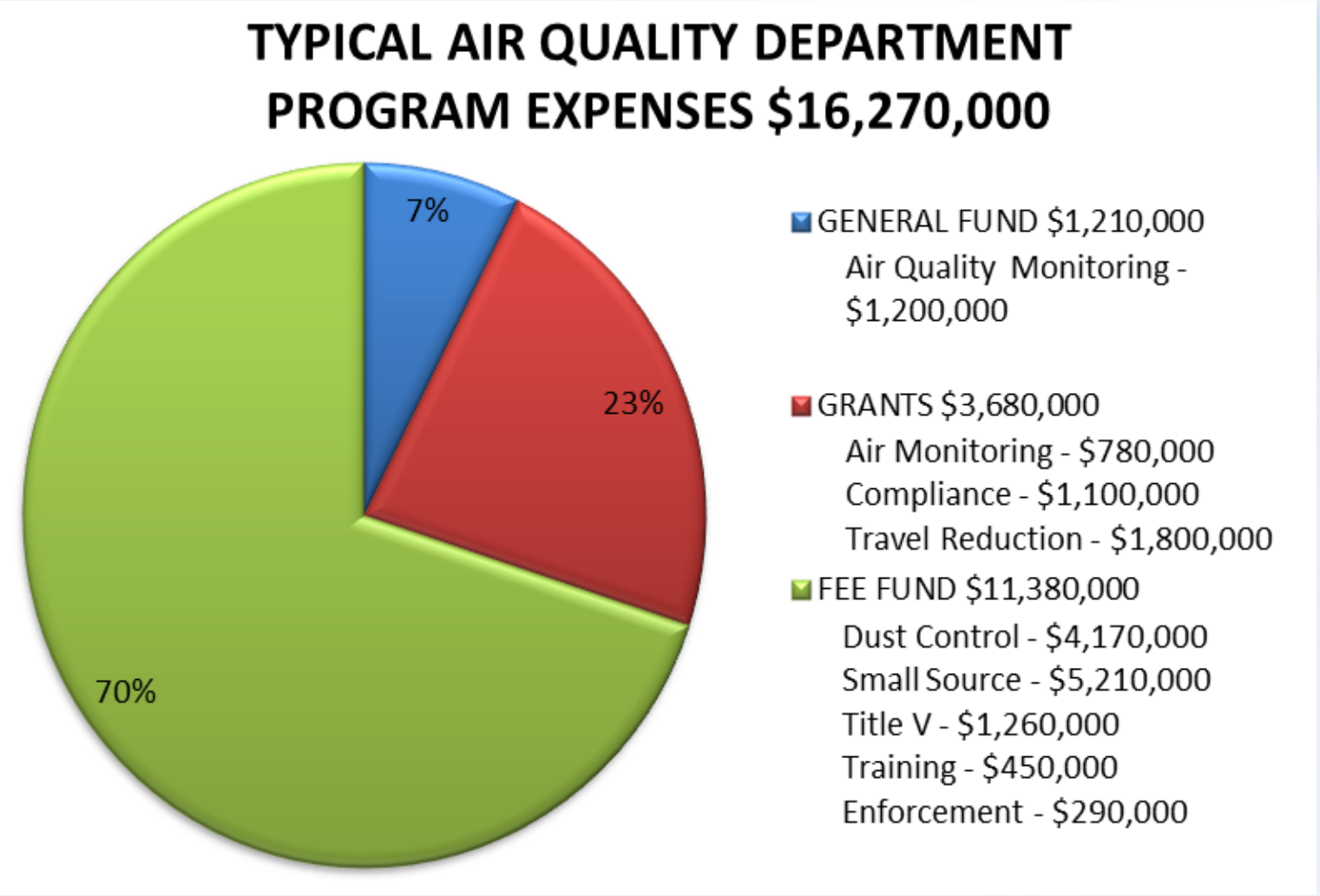
Maricopa County
Air Quality Department

Phil McNeely
Director

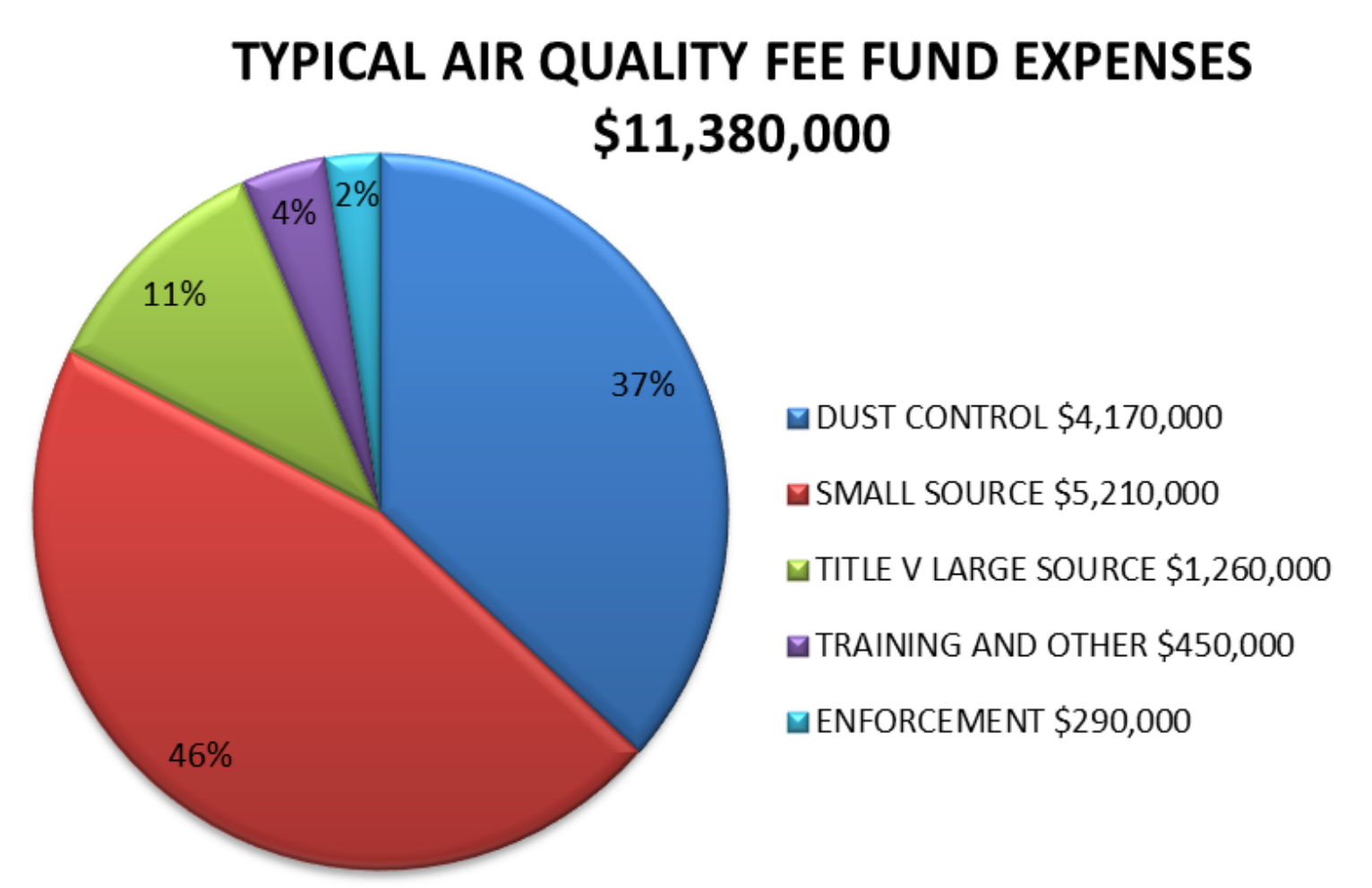
Department Overview

- MCAQD's goal is to ensure federal clean air standards are achieved and maintained for the residents and visitors of Maricopa County.
- Fees support the operations of the following program areas:
  - Permit Engineering: issues permits for major/minor sources
  - Compliance and Enforcement: performs site inspections, violation issuance and enforcement
  - Planning and Analysis: drafting and finalizing air quality air pollution rules and ordinances and emission inventories
  - Air Monitoring: measures ozone, particulate matter and carbon monoxide levels
  - Travel Reduction and Outreach: helps develop strategies to reduce single occupancy trips; develops public education programs to improve air quality
  - Department Leadership and Operations: provides overall policy and operational direction and support to all program areas.

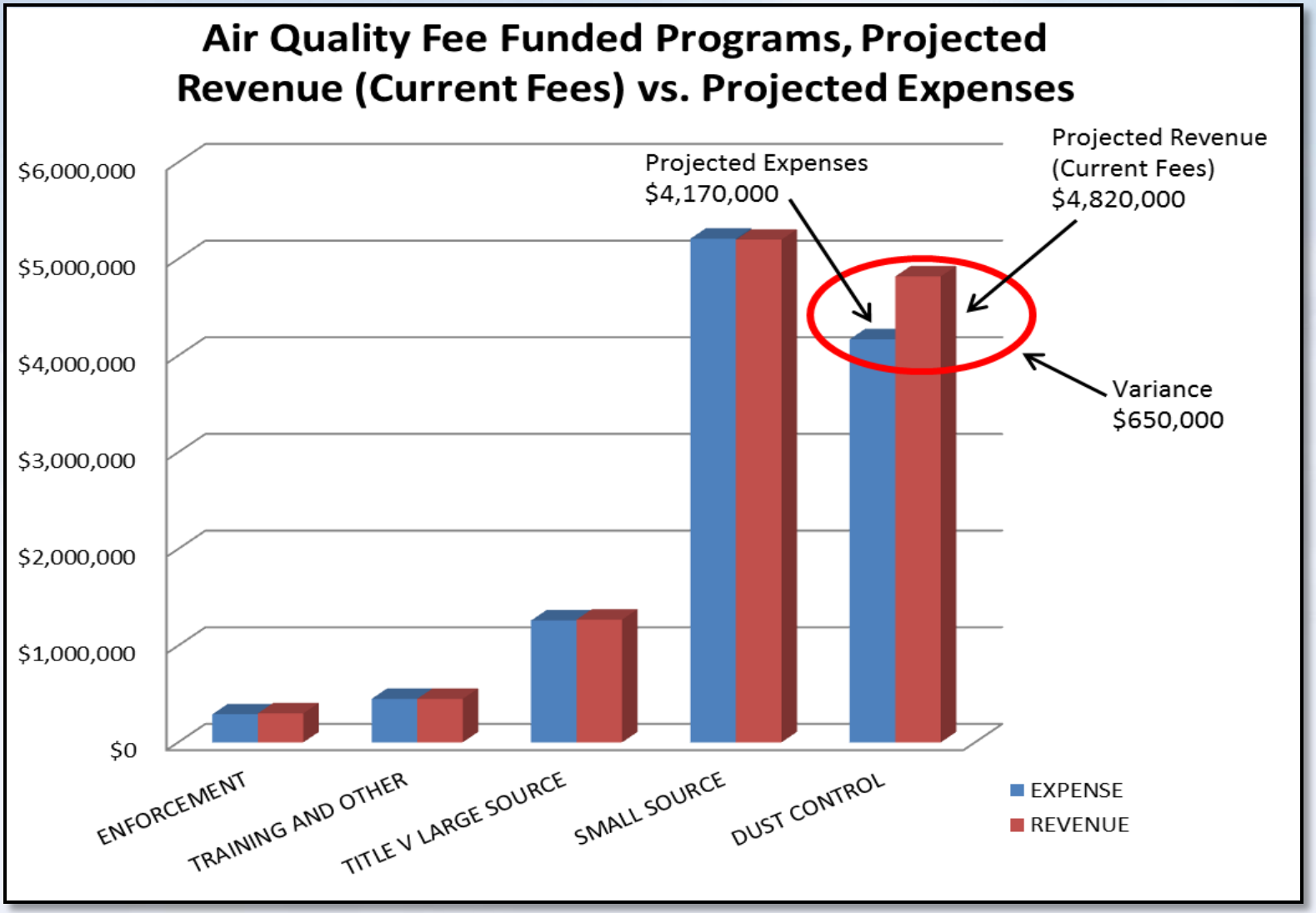
Department Program Expenses



Air Quality Fee Fund Program Expenses



AQF Projected Revenues vs. Expenses



Air Quality Status

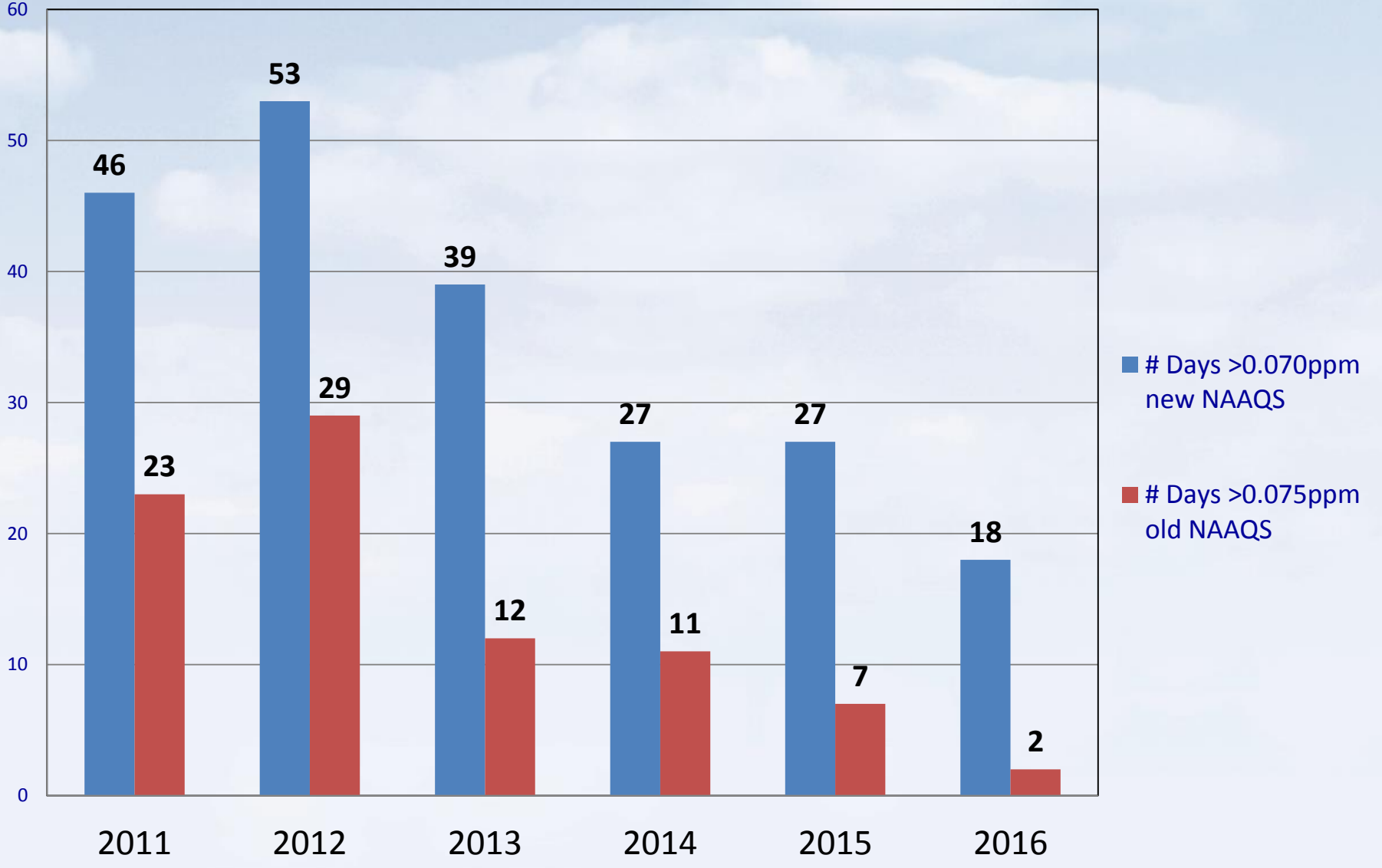
Exceedances to date

Pollutant	2016 Exceedance Days	2015 Exceedance Days	2014 Exceedance Days	2013 Exceedance Days	2012 Exceedance Days	2011 Exceedance Days
Ozone .070ppm	18	27	27	39	53	46
Ozone .075ppm	2	7	11	12	29	23
PM_{10}*	3	0	7	6	13	22
$PM_{2.5}$	2	3	3	5	5	9

NOTE: the NAAQS for $PM_{2.5}$ is based on the 98th percentile and annual average, which will differ

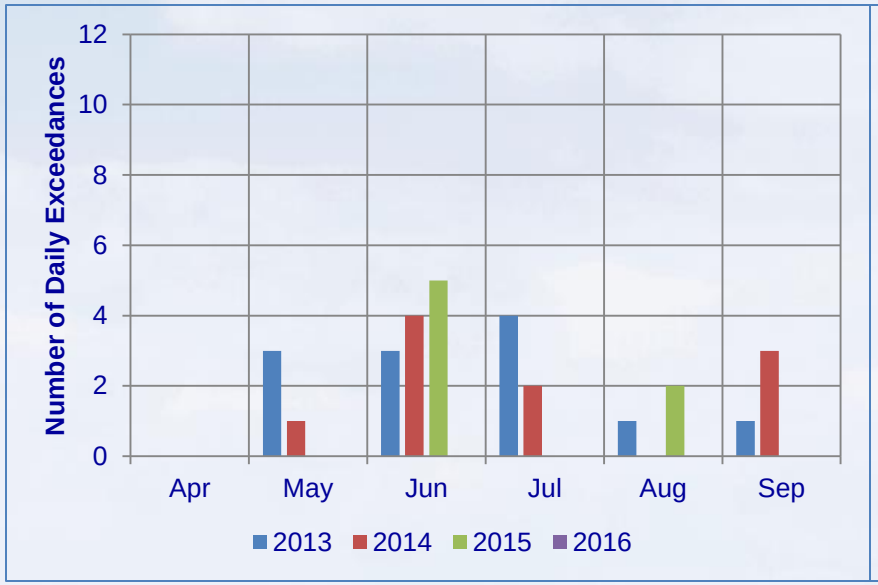
***** does not exclude Exceptional Events

Number of Exceedance Days at the New and Old Ozone NAAQS as of 6/28/16

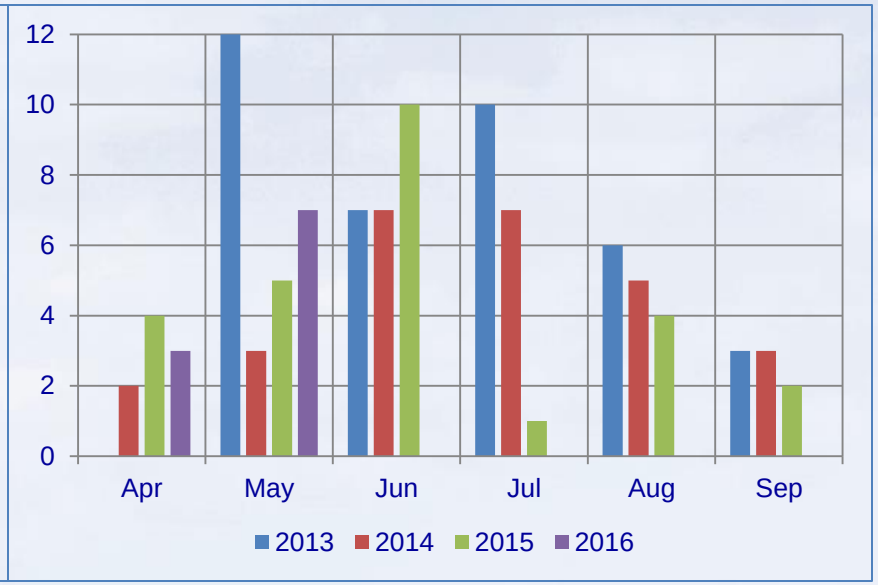


Comparison of the 75 and 70 ppb 8-hour Ozone Standard (as of May 2016)

Number of exceedances at an average of 75 ppb

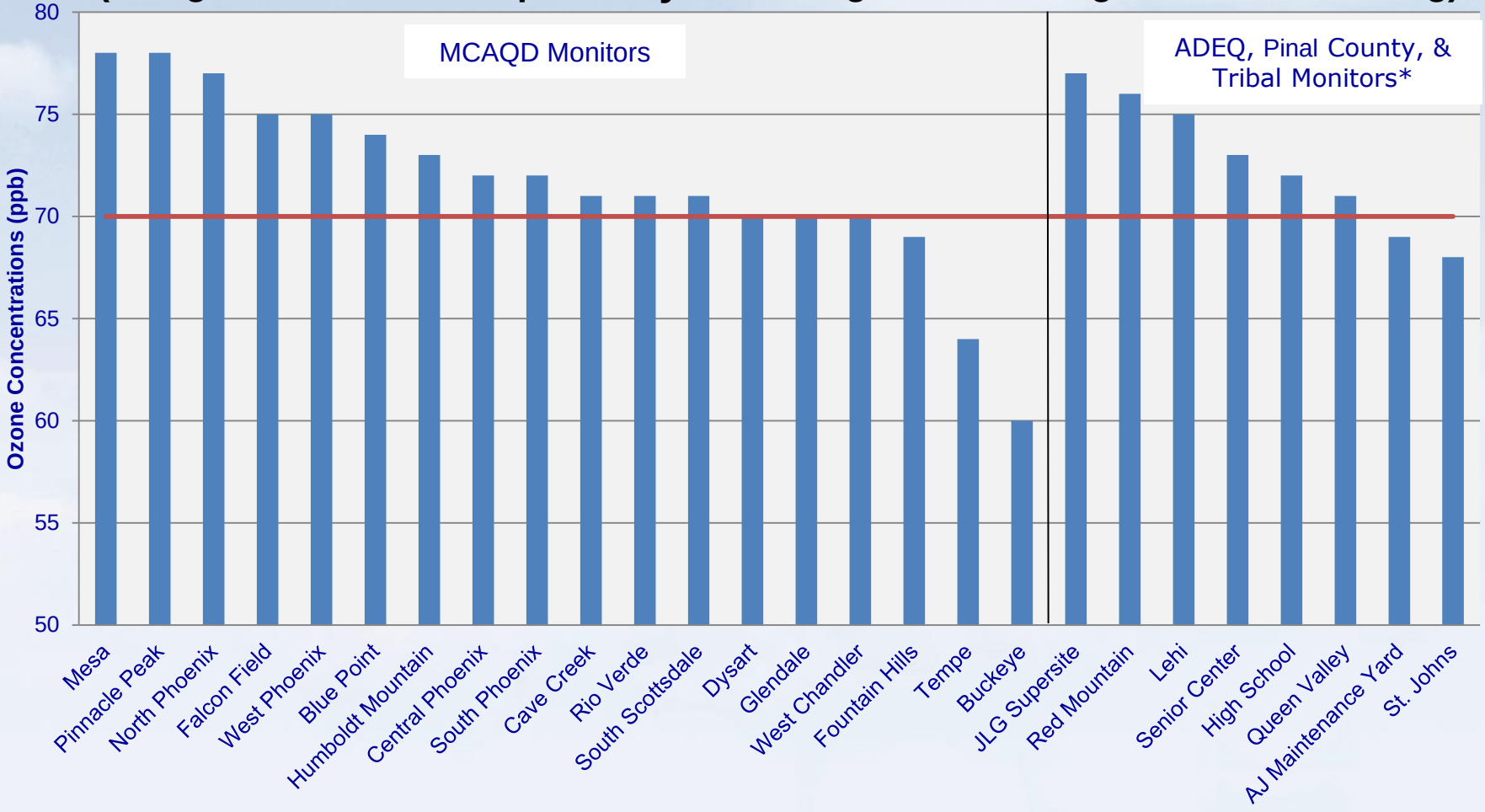


Number of exceedances at an average of 70 ppb



2015 Ozone Design Values

(Design value is based upon a 3-year average of the 4th highest 8-hour reading)

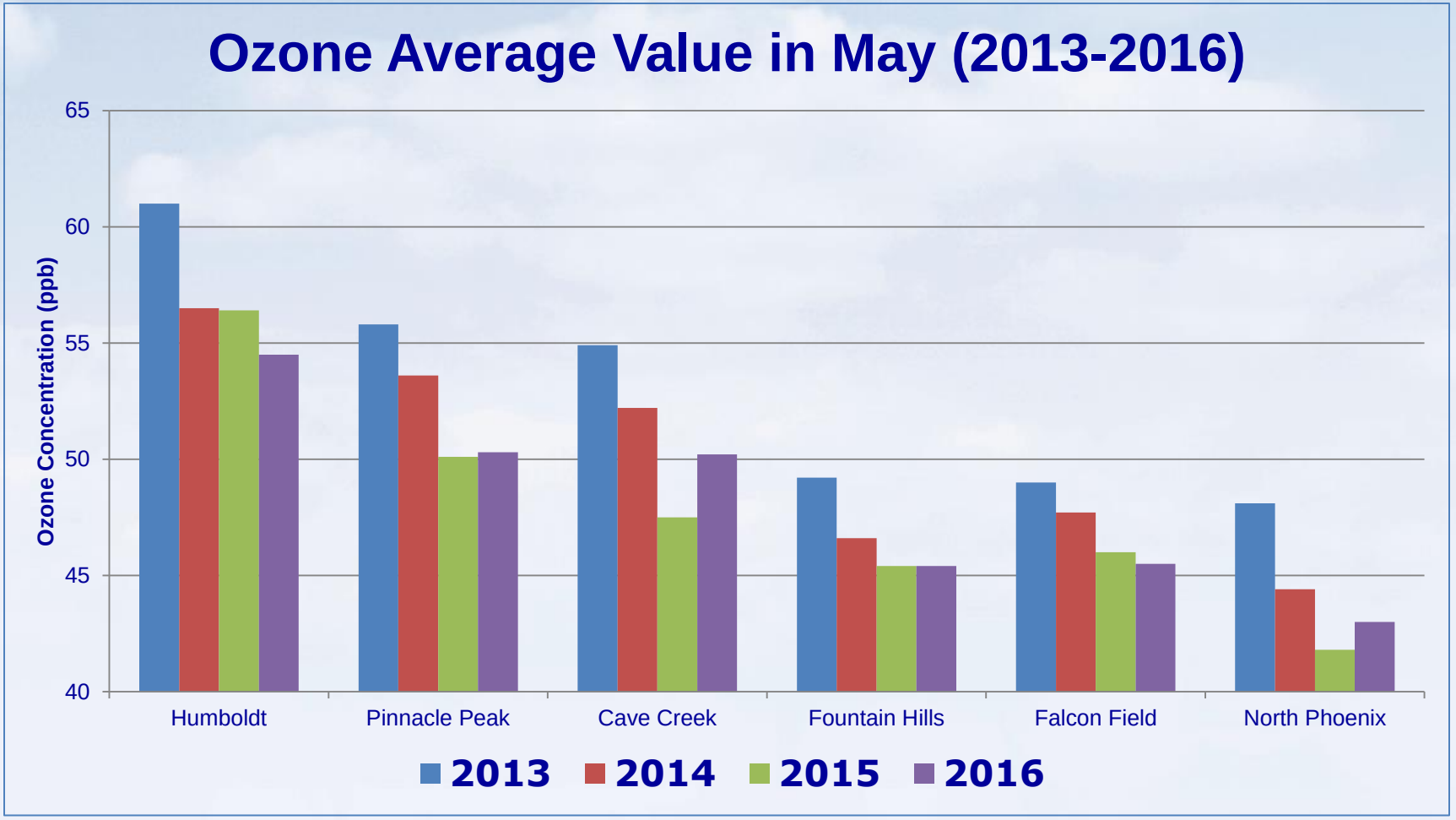


*Ft. McDowell Yuma Frank did not meet data completeness and is not included.

Last updated 6/14/16

How Does 2016 Compare?

Average ozone concentrations in May:

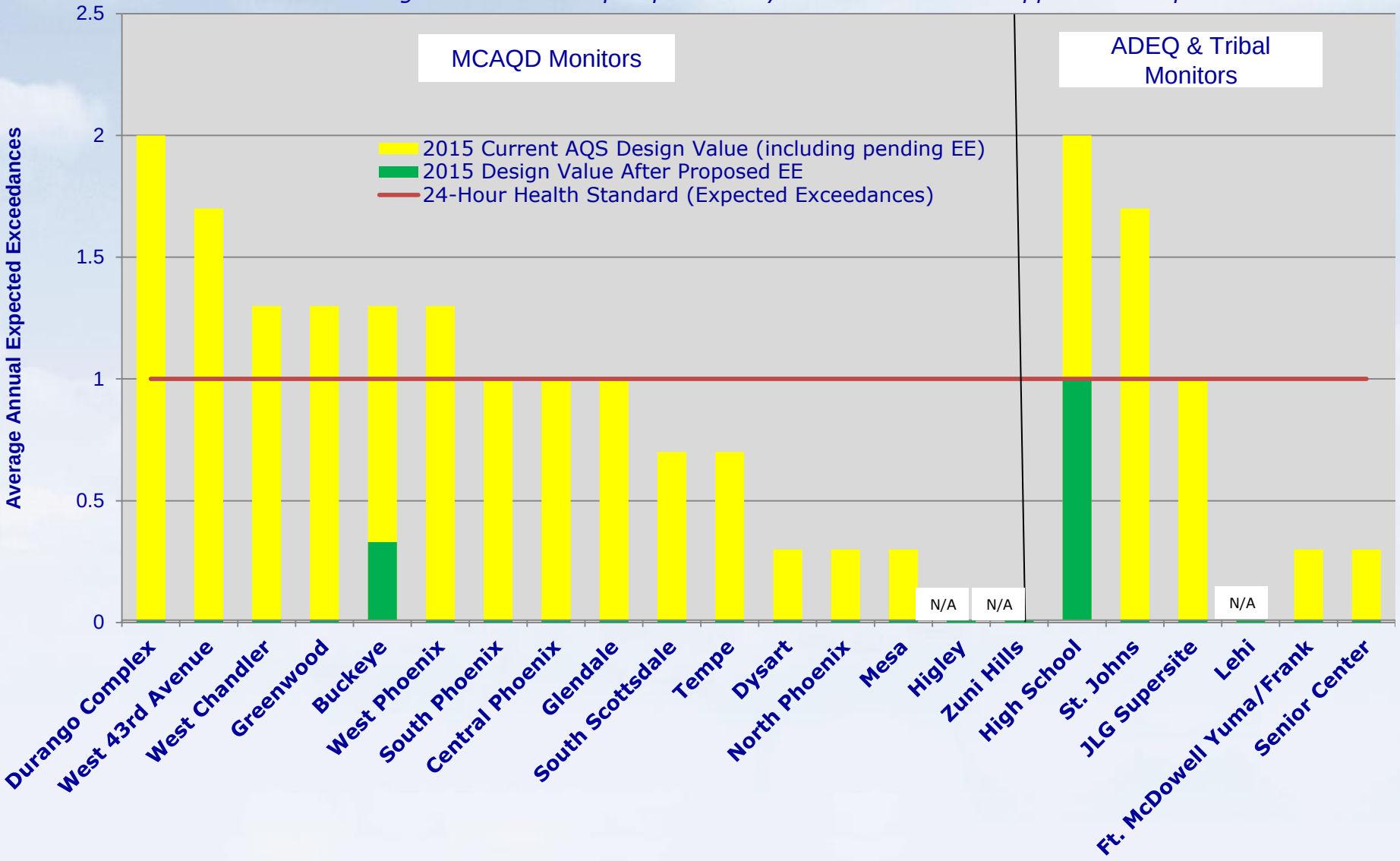


Last updated 6/14/16

2015 PM_{10} Design Values

Design value is based upon a 3-year average of 24-hour PM_{10} exceedances between 2013-2015

These are unofficial design values based upon preliminary data and include unapproved exceptional events



Updated 1/5/2016

2016 Exceedances Days of the 24-Hr PM-10 NAAQS

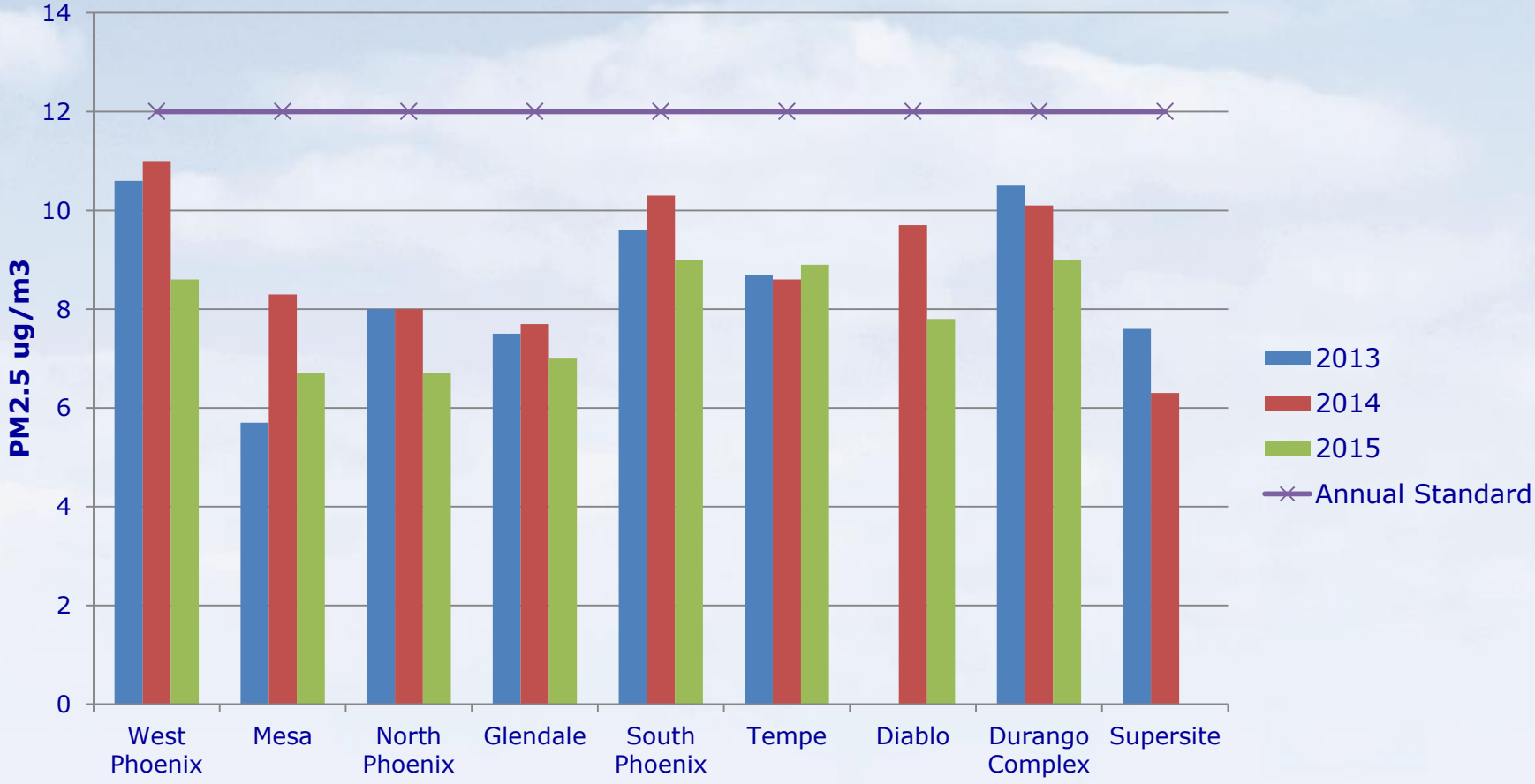
as of 05/17/2016

PM10 NAAQS ≥ 155 µg/m3

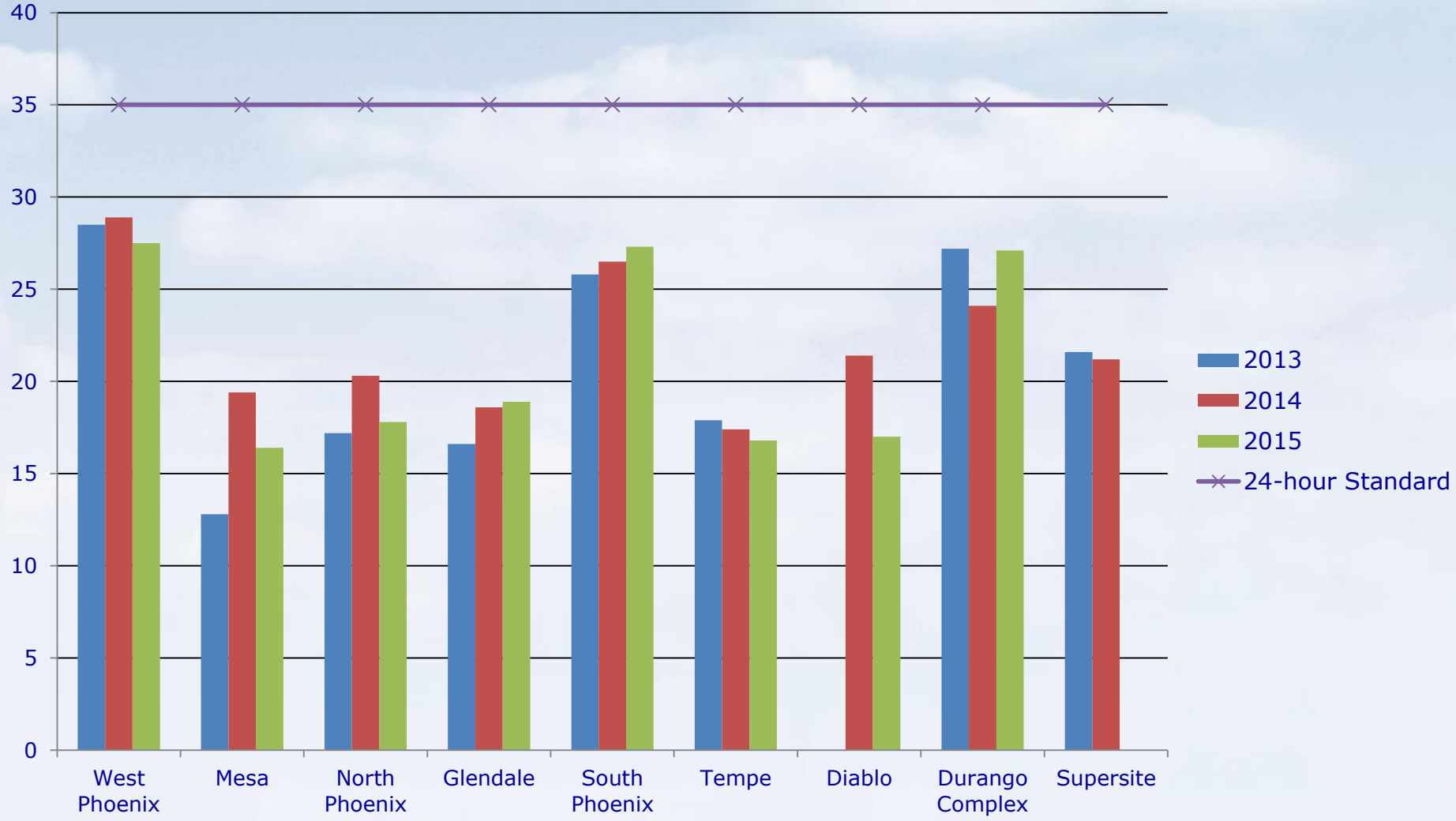
Site	Date	24-hr avg. PM-10 (µg/m^3)
West Phoenix 1	1/1/16	172.3
West 43rd 1	4/25/16	175.0
Dysart 1	5/17/16	174.1
Number of Days in 2016 where at least one monitor Exceeded the 24hr PM-10 Standard		3

Excludes Exceptional Events

PM 2.5 Annual Averages 2013-2015



PM 2.5 24-Hour Standard-98th Percentile 2013-2015



Exceedances of the 24-Hour PM-2.5 Standard for 2016

as of 03/16/16

24-hr PM-2.5 NAAQS 35 µg/m3

Site	Date	24-hr avg. PM-2.5 Concentration in
Diablo	1/1/16	62.7
1		
Durango	1/1/16	64.2
2	3/16/16	39.4
Glendale	1/1/16	113.9
1		
Mesa	1/1/16	83.0
1		
North Phoenix	1/1/16	52.2
1		
South Phoenix	1/1/16	108.0
1		
Tempe	1/1/16	59.2
1		
Thirty-Third	1/1/16	119.1
1		
West Phoenix	1/1/16	152.1
1		
JLG SS (ADEQ)	1/1/16	75.6
1		
Number of Days in 2016 where at least one monitor exceeded the 24hr PM-2.5 Standard		2

Fireplace Retrofit Program

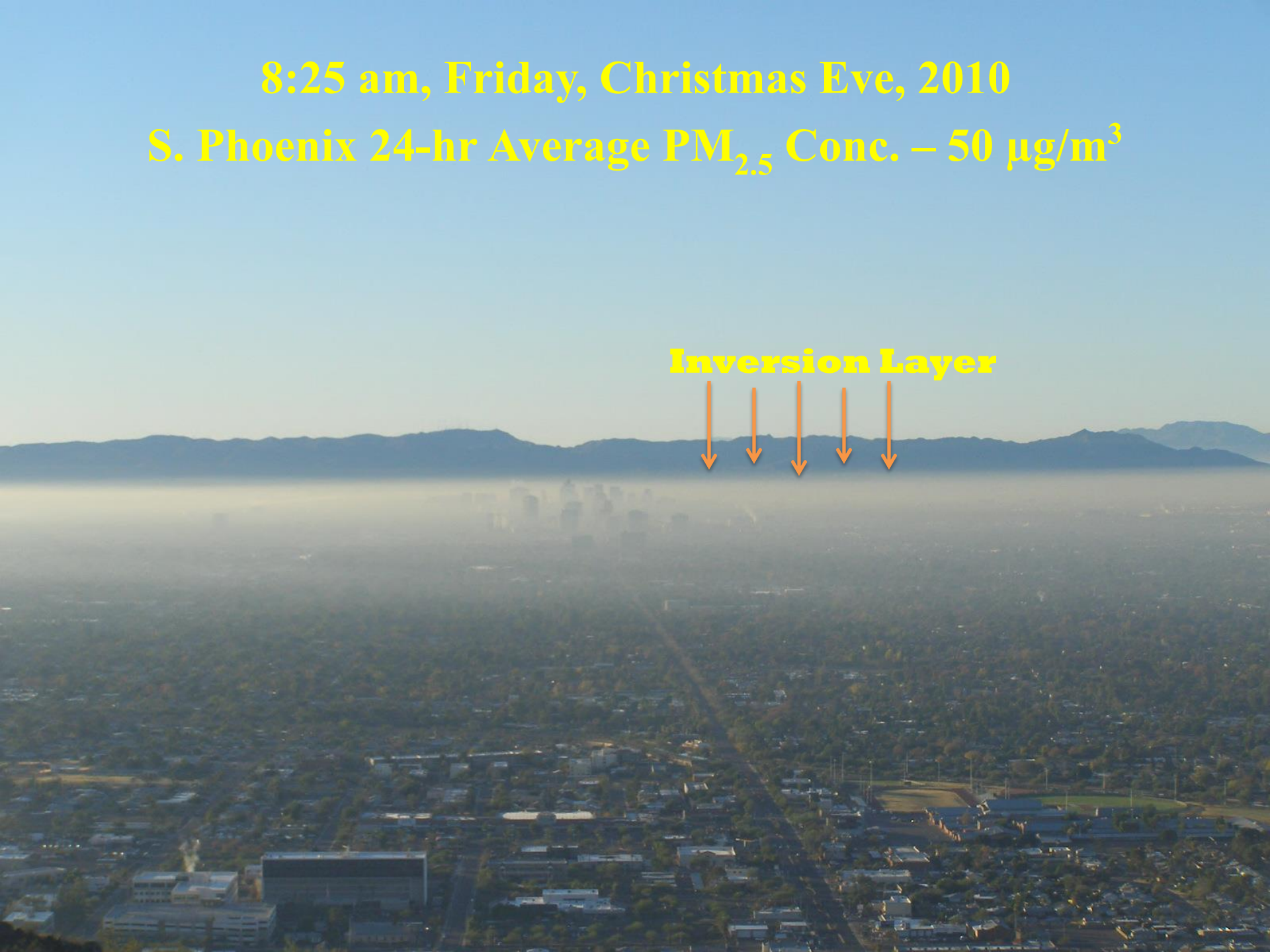
Program Overview

- $PM_{2.5}$ emissions from wood burning in fireplaces are a significant contributor to breathing related health issues including hospitalizations from acute asthma symptoms.

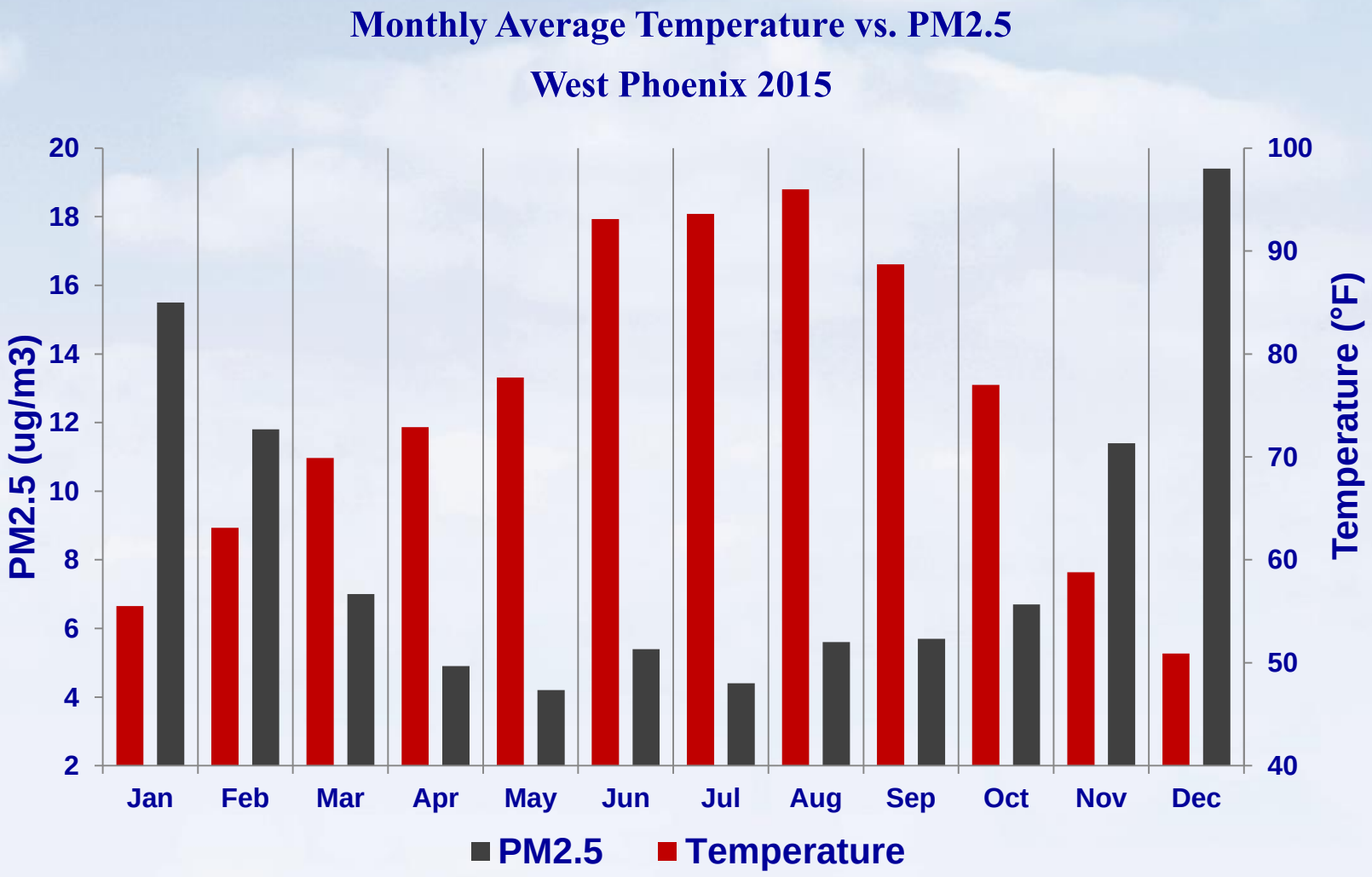
- Currently, Maricopa County is in attainment with the EPA health based standard for $PM_{2.5}$; however, three local monitors show significant $PM_{2.5}$ concentrations during the fireplace burning season.

- Goal of the program is to reduce $PM_{2.5}$ emissions to improve community well-being and eliminate the possibility of $PM_{2.5}$ violations which would result in increased regulatory burden.

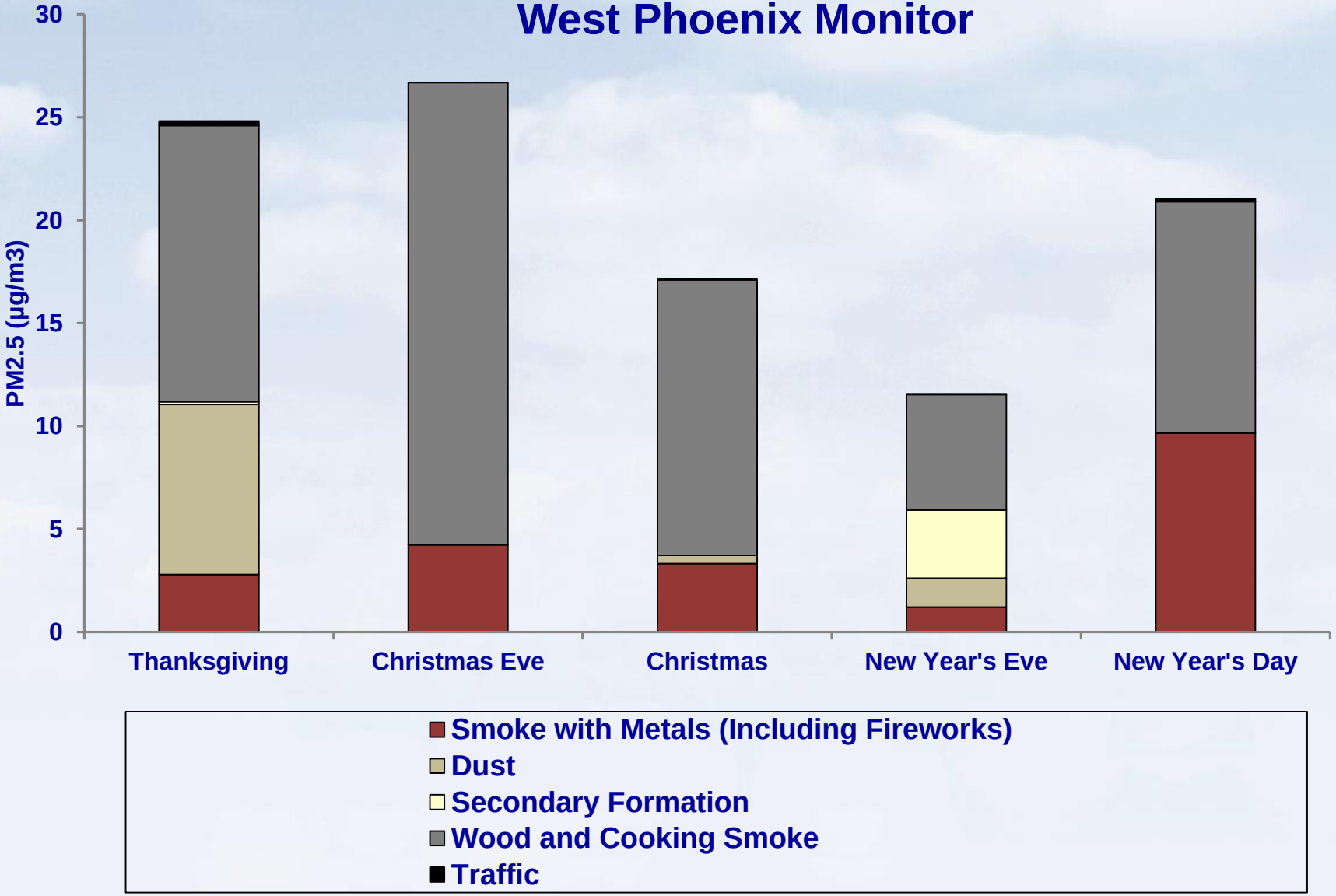

9:45 am, Sunday, Dec. 12, 2010
S. Phoenix 24-hr Average $PM_{2.5}$ Conc. – 24.5 µg/m^3
Inversion Layer


8:25 am, Friday, Christmas Eve, 2010
S. Phoenix 24-hr Average $PM_{2.5}$ Conc. – 50 µg/m^3
Inversion Layer

PM 2.5 and Temperature



2014-2015 Winter Holidays PM2.5 Source Attribution at West Phoenix Monitor



Background

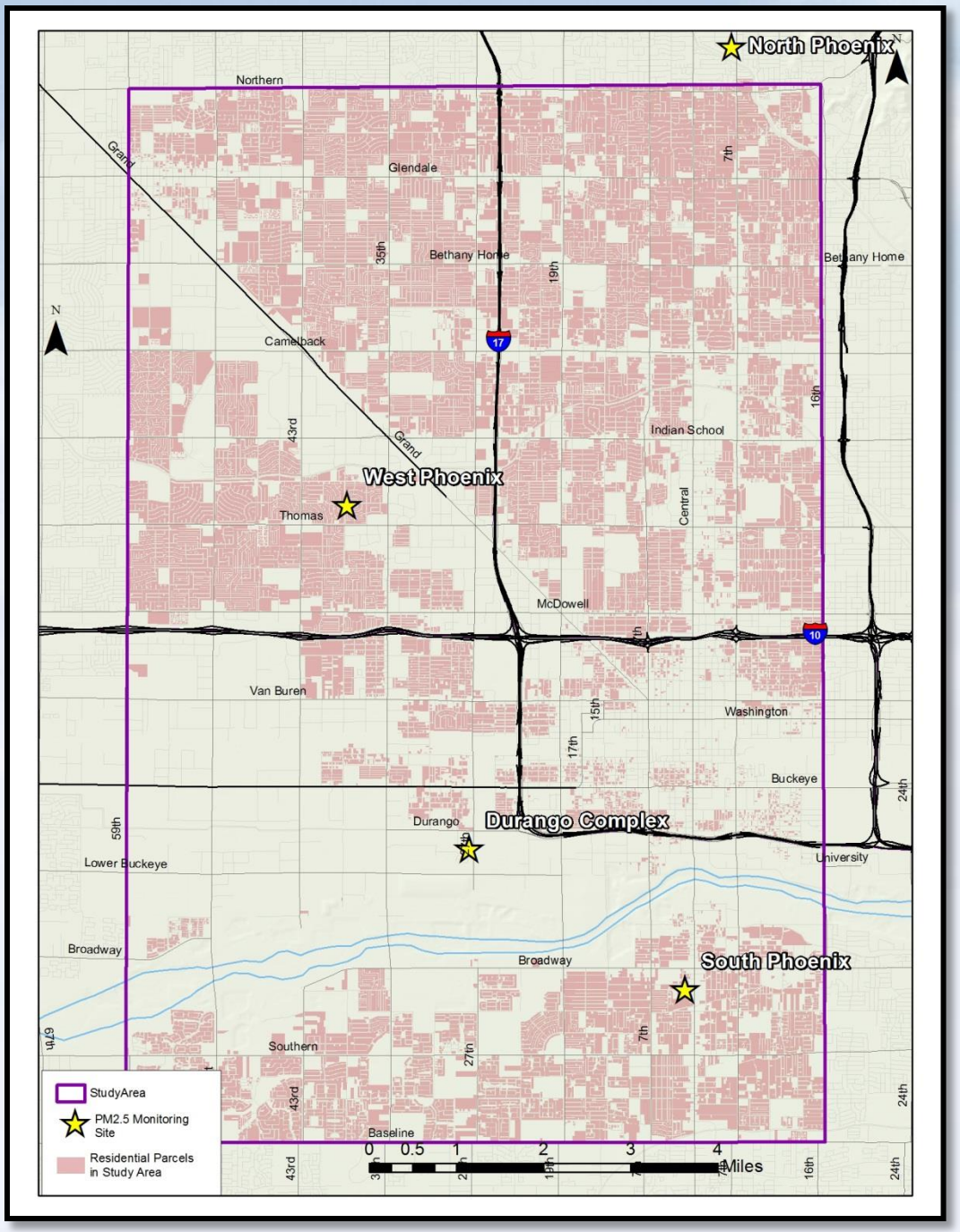
- Conducted benchmarking
  - South Coast Air Quality Management District
  - Sacramento Metropolitan Air Quality District

- Determined a pilot program area
  - Highest $PM_{2.5}$ concentrations during the fireplace burning season observed in South and West Phoenix

- Identified retrofit products
  - Catalytic Control Systems (75% reduction in PM2.5)
  - Gas Log Inserts

Pilot Program Area

- North to South: Baseline Rd. to Northern Ave.
- East To West: 16th St. to 59th Ave.
- Includes three monitors with highest $PM_{2.5}$ readings:
  - West Phoenix
  - Durango Complex
  - South Phoenix



Program Implementation

- **Tentative Program scheduled to begin on November 1st**
  - **Unfold in phases**
    - **Phase 1**
      - **Outreach**
      - **Identify retrofit candidates**
      - **Install Pure Fire Catalytic Control System**
    - **Phase 2**
      - **Gas Log Inserts**

- **Initial phase to focus on fireplaces, future stages to include outdoor burning devices.**

Diesel Emissions Reduction Act (DERA Grant)

- Arizona State Diesel Program
- Estimated $217,069 FY 2016 Funding
- Non-competitive assistance awards
- Eligible solutions include exhaust controls, engine upgrades, cleaner fuel use, idle reduction technologies

Voluntary Vehicle Repair Program

- A.R.S. Section 49-474.03
- Counties with over 400K population
- Eligible vehicles failed the emissions inspection and are 12 years old
- Program pays up to $550 for emissions repairs after a $150 copayment.

Urban Tree Selection Criteria Project

- Purpose is to bring interested parties together to develop tree selection criteria that best meet the following objectives:
  - Low VOC emitting
  - Low water use
  - Shade
  - Powerline friendly
  - Low allergy impact
  - Native species
- Provide the information to organizations that plant trees such as transportation departments, parks departments, municipalities, homeowners, developers, flood control, and tree nurseries.

Philip McNeely

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Maricopa County
Air Quality Department

Johanna Kuspert
Planning & Analysis Supervisor

Rules Updates

Ozone and Beyond

Proposed Rule Revisions

As Presented At Last Year's AESA Seminar: July 14, 2015

Incorporation By Reference Rules 2014-2015

New Source Review (NSR)

Rule 140: Excess Emissions

Rule 316: Nonmetallic Mineral Processing

Rule 322: Power Plant Operations

Rule 323: Fuel Burning From ICI Sources

Rule 324: Stationary Internal Combustion Engines

Rule 336: Surface Coating Operations

Rule 342: Coating Wood Furniture And Fixtures

Rule 345: Vehicle And Mobile Equipment Coating

Rule 350, 351, 352 and 353: Organic Liquids And Gasoline Rules

Proposed Rule Revisions

As Presented At Last Year's AESA Seminar: July 14, 2015

Completed: As Of July 14, 2015

- Incorporation By Reference Rules 2014-2015
- New Source Review (NSR)

On-Going: As Of July 14, 2015

- Ozone Rules: Rules 322, 323, 324, 336, 342, 350, 351, 352, And 353
- Rule 140: Excess Emissions
- Rule 316: Nonmetallic Mineral Processing
- Rule 345: Vehicle And Mobile Equipment Coating

New: As Of July 14, 2015

- Incorporation By Reference Rules 2015-2016
- Rule 241: Minor New Source Review (NSR)
- Rule 280: Fees
- Rule 320: Odors And Gaseous Air Contaminants
- Rule 372: Maricopa County Hazardous Air Pollutants (HAPs) Program

Proposed Rule Revisions
Completed: As Of July 14, 2015

Incorporation By Reference Rules 2014-2015

Every year on July 1, the EPA codifies any changes to New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Acid Rain and other parts of Title 40 of the Code of Federal Regulations (CFR) that have been made in the past year; MCAQD then incorporates these codified federal revisions and additions into Rules 321, 360, 370, 371, and Appendix G.

- Board of Supervisors adopted revisions on November 18, 2015

New Source Review (NSR)

NSR is a long-standing Clean Air Act permitting program; includes 12 rules (Rules 100, 200, 210, 220, 230, 240, 241, 500, 510, 600, Appendix D, and Appendix E)

- Board of Supervisors adopted revisions on February 3, 2016
- MCAQD submitted NSR-SIP revision to ADEQ on April 22, 2016
- ADEQ submitted NSR-SIP revision to the EPA on May 19, 2016

Proposed Rule Revisions
On-Going: Since July 14, 2015

Ozone Rules (Rules 322, 323, 324, 336, 342, 350, 351, 352, And 353)
Nine rules are being revised to address the requirements of the State Implementation Plan (SIP) for "moderate" nonattainment for the 2008 eight-hour ozone national ambient air quality standard (NAAQS).

- Had 21 Stakeholder Workshops; sent notifications to 7,000 EROP subscribers; received 50 comments from Stakeholders, including the EPA
- Presented rules to the Board of Health (BOH) on April 25, 2016; approved as Expedited Process (do not have to present to the BOH a second time)
- Published Notices of Proposed Rulemaking in the Arizona Administrative Register May 13-June 13, 2016; received 15 comments from Stakeholders, including the EPA
- To submit Draft Notices of Final Rulemaking to the Board of Supervisors (BOS) on August 2, 2016; BOS to adopt rule revisions on October 5, 2016

Proposed Rule Revisions
On-Going: Since July 14, 2015

Rule 140: Excess Emissions

Rule 140 establishes affirmative defenses and associated administrative requirements for startup, shutdown, and malfunction. The EPA is requiring that such affirmative defenses be removed from the SIP.

- Had two workshops and one Stakeholder Meeting with ADEQ
- Deadline to submit the SIP revision to the EPA is November 22, 2016

Rule 316: Nonmetallic Mineral Processing

Rule 316 limits the emissions of particulate matter from nonmetallic mineral processing plants and rock product processing plants. The rule is being revised to clarify and enhance the enforceability of emission limitations and work practices.

- Had one Stakeholder Workshop
- On-hold pending litigation re: approval of the Five Percent Plan

Proposed Rule Revisions
On-Going: Since July 14, 2015

Rule 345: Vehicle And Mobile Equipment Coating

Rule 345 limits emissions of volatile organic compounds (VOCs) from motor vehicle and mobile equipment coating. The rule is being revised to clarify and update work practices and spray gun requirements.

- Had four Stakeholder Workshops
- Presented rule to the Board of Health (BOH) on September 10, 2014; approved as Expedited Process (do not have to present to the BOH a second time)
- Published Notice of Supplemental Proposed Rulemaking in Arizona Administrative Register June 10-July 11, 2016; received three comments from Stakeholders
- To submit Draft Notice of Final Rulemaking to the Board of Supervisors (BOS) on August 2, 2016; BOS to adopt rule revisions on October 5, 2016

Proposed Rule Revisions
New: As Of July 14, 2015

Incorporation By Reference Rules 2015-2016

Every year on July 1, the EPA codifies any changes to New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Acid Rain and other parts of Title 40 of the Code of Federal Regulations (CFR) that have been made in the past year; MCAQD then incorporates these codified federal revisions and additions into Rules 321, 360, 370, 371, and Appendix G.

- To publish Notice of Expedited Rulemaking in Arizona Administrative Register July 29-August 29, 2016
- To submit Draft Notice of Final Rulemaking to the Board of Supervisors (BOS) on September 6, 2016; BOS to adopt rule revisions on November 2, 2016

Proposed Rule Revisions
New: As Of July 14, 2015

Rule 241: Minor New Source Review (NSR)

Rule 241 provides a procedure for the review of new sources and modifications to existing sources of air pollution requiring permits or permit revisions. The rule is being revised to change the threshold when new or modified stationary sources are required to apply Best Available Control Technology (BACT) and Reasonably Available Control Technology (RACT). To be consistent with federal thresholds, the threshold is proposed to change from 25 tons per year to 40 tons per year for volatile organic compounds, nitrogen oxides, or sulfur dioxide.

- Had one Stakeholder Workshop
- Presented rule to the Board of Health (BOH) on April 25, 2016; approved as Expedited Process (do not have to present to the BOH a second time)
- Published Notice of Proposed Rulemaking in the Arizona Administrative Register May 13-June 13, 2016; no comments were received
- Submitted Draft Notice of Final Rulemaking to the Board of Supervisors (BOS) on July 5, 2016; BOS to adopt rule revisions on September 7, 2016

Proposed Rule Revisions
New: As Of July 14, 2015

Rule 280: Fees

Rule 280 establishes fees charged to owners and operators of sources of air pollution subject to air quality rules. The current revenues generated by fees exceed the expenses resulting in a yearly positive balance. The rule is being revised to reduce fees for two dust control permit categories, to provide an accelerated permit processing option for dust control permit applications, and to provide a refund option for asbestos notification and plan review filing fees.

- Had one Stakeholder Workshop
- To publish Notice of Proposed Rulemaking in the Arizona Administrative Register August 19-September 19
- To present rule to the Board of Health (BOH) on October 24, 2016; to request Expedited Process (will not have to present to the BOH a second time)
- To submit Draft Notice of Final Rulemaking to the Board of Supervisors (BOS) on November 1, 2016; BOS to adopt rule revisions on January 4, 2017

Proposed Rule Revisions
New: As Of July 14, 2015

Rule 320: Odors And Gaseous Air Contaminants

Rule 320 limits the emissions of odors and other gaseous air contaminants from rendering operations and asphalt kettle operations, limits the emissions of hydrogen sulfide, sulfur, and high sulfur oil, and has restrictions for the processing, storing, using, and transporting pesticides, fertilizer, and manure. Rule 320 is based on Rule 32, which was approved by the EPA into the Arizona SIP in 1972. The rule is being revised to remove outdated standards and improve enforceability. Rule 320 will replace Rule 32 in the Arizona SIP.

- To conduct a Stakeholder Workshop on August 11, 2016

Proposed Rule Revisions

New: As Of July 14, 2015

Rule 372: Maricopa County Hazardous Air Pollutants (HAPs) Program

Rule 372 and associated Appendix H (Procedures For Determining Ambient Air Concentrations For Hazardous Air Pollutants) establish procedures for a Maricopa County program for the regulation of federally listed HAPs. In 2007, MCAQD had been given the mandate to create a County HAPs program by Arizona Revised Statutes § 49-480.04. On March 20, 2008, as a result of the final judgment of the Maricopa County Superior Court, the superior court held that the State of Arizona does not have authority to adopt de minimis amounts of federal HAPs. Consequently, MCAQD is proposing to rescind Rule 372 and Appendix H.

- Had one Stakeholder Workshop
- To publish Notice of Proposed Rulemaking in the Arizona Administrative Register August 19-September 19
- To present rule to the Board of Health (BOH) on October 24, 2016; to request Expedited Process (will not have to present to the BOH a second time)
- To submit Draft Notice of Final Rulemaking to the Board of Supervisors (BOS) on November 1, 2016; BOS to adopt rule revisions on January 4, 2017

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Maricopa County
Air Quality Department

Bob Downing
Emissions Inventory Manager

Developing Emission Inventories for Criteria Pollutants

Maricopa County
Air Quality Department

Introduction

What *<u>is</u>* an emission inventory?

It's a ***current***, ***comprehensive*** listing, by source, of air pollutant emissions for…

- a specific geographic area
- a specific time period
- an identified set of uses

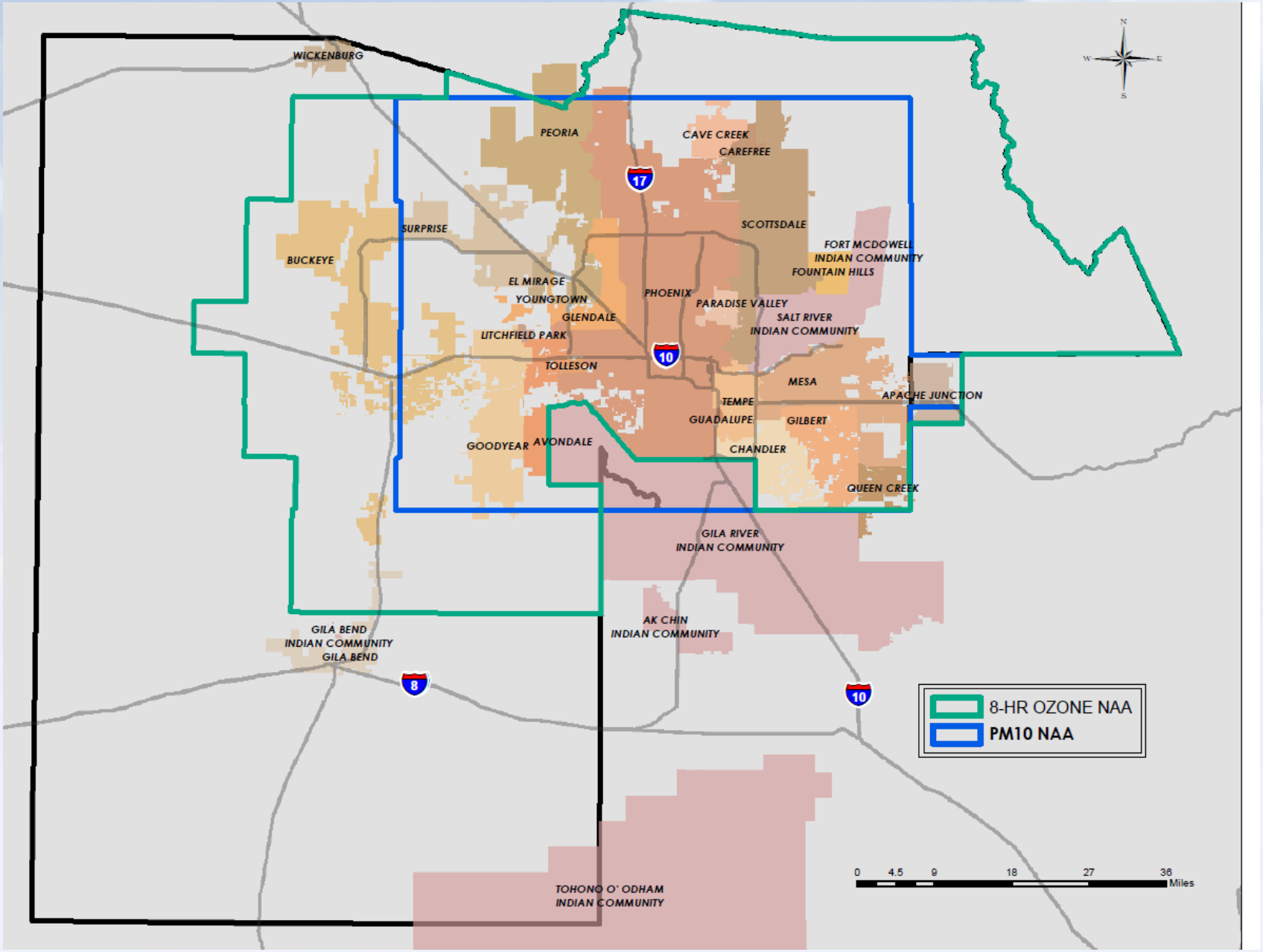
Background

"Comprehensive, accurate and current" inventories are:

- required by the Clean Air Act and the 2009 Air Emissions Reporting Rule (AERR)
- a primary tool for tracking progress in meeting and maintaining attainment with NAAQS
- used to assess current and potential control strategies
- a long-range planning tool
- prepared on a 3-year cycle (….2008, 2011, 2014….)

Source Categories

PM_{10} and 8-Hour Ozone Nonattainment Areas



Use a variety of emission calculation methods...

"Bottom-up" vs. "top-down" approaches

▪ Source-specific	▪ More general
▪ Requires detailed data	▪ Uses national/state info
▪ Tends to have higher accuracy, but is resource-intensive	▪ May be less accurate; can be done with fewer resources, or where adequate local data isn't available

Use a variety of emission calculation methods...

Conduct detailed site-specific surveys:

- Several hundred **large industrial facilities** with MCAQD permits

- **Airports**: Traffic volume and patterns, by aircraft type… as well as ground support equipment and auxiliary power units

Use a variety of emission calculation methods...

Conduct specialized surveys of activity for specific source categories, e.g.:

- Locomotive activity
- Natural gas distribution (supply-side surveys)
- Pesticide usage

Use a variety of emission calculation methods...

Collect/analyze data from other entities:

- **MCAQD:** earthmoving permits, open-burn activity, stationary source permit info
- **ADEQ:** state-permitted portable sources, prescribed burning activity

- **ADOT:** data on vehicle miles traveled and gasoline sales tax data
- Arizona Agricultural Statistics, US Census Bureau, FAA's Air Traffic Activity Data System
- **MAG:** land use, demographics, economic data

Use a variety of emission calculation methods...

Use specialized emission modeling tools:

- EDMS (aircraft)

- NONROAD (offroad engines)

- MOVES (onroad mobile sources)

- MEGAN (biogenic emissions)

Use a variety of emission calculation methods...

Apply "top-down" national or state data:

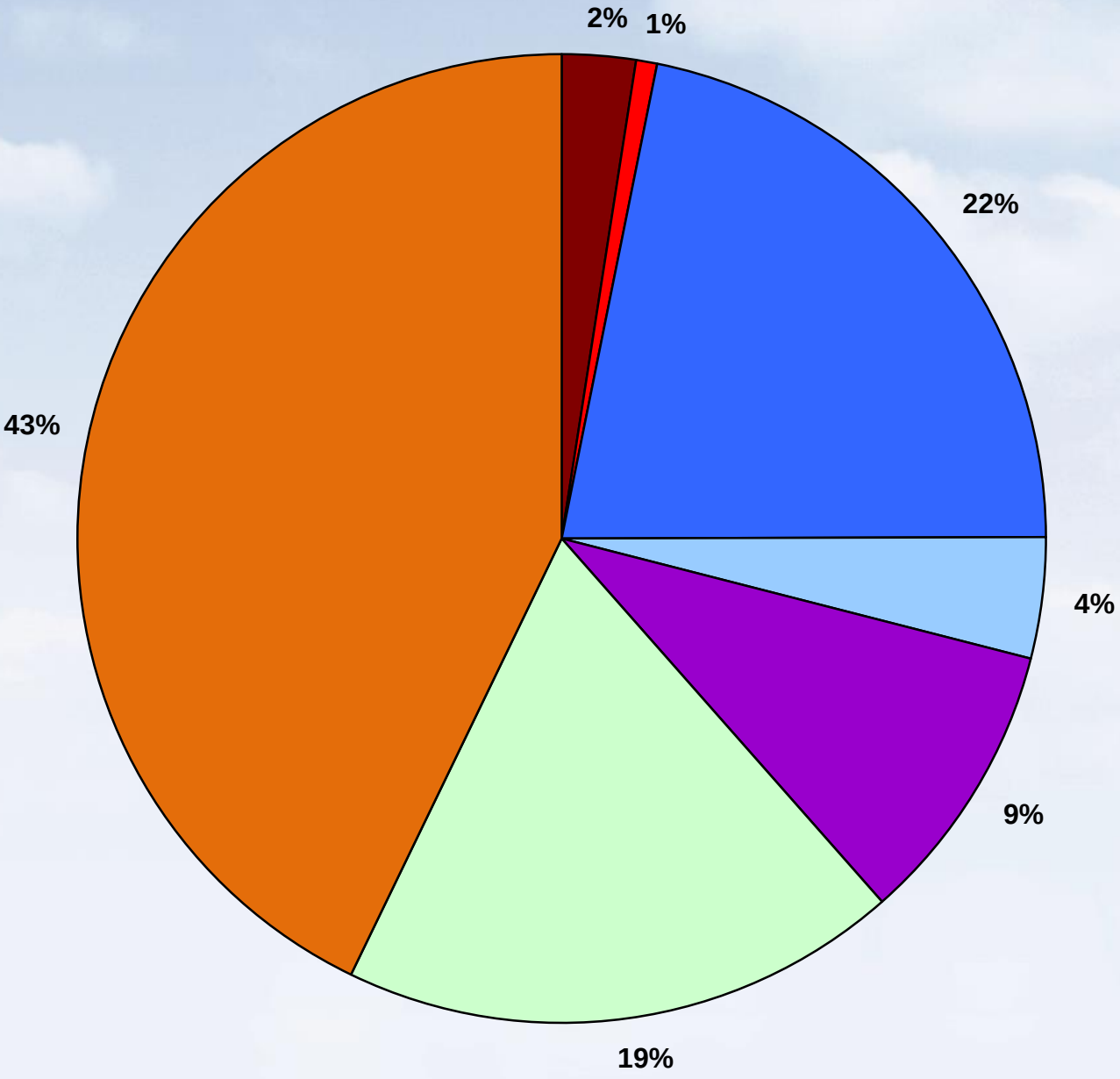
- Architectural coatings
- Consumer solvent usage

Development of new approaches:

- Windblown dust

2011 VOC Emissions

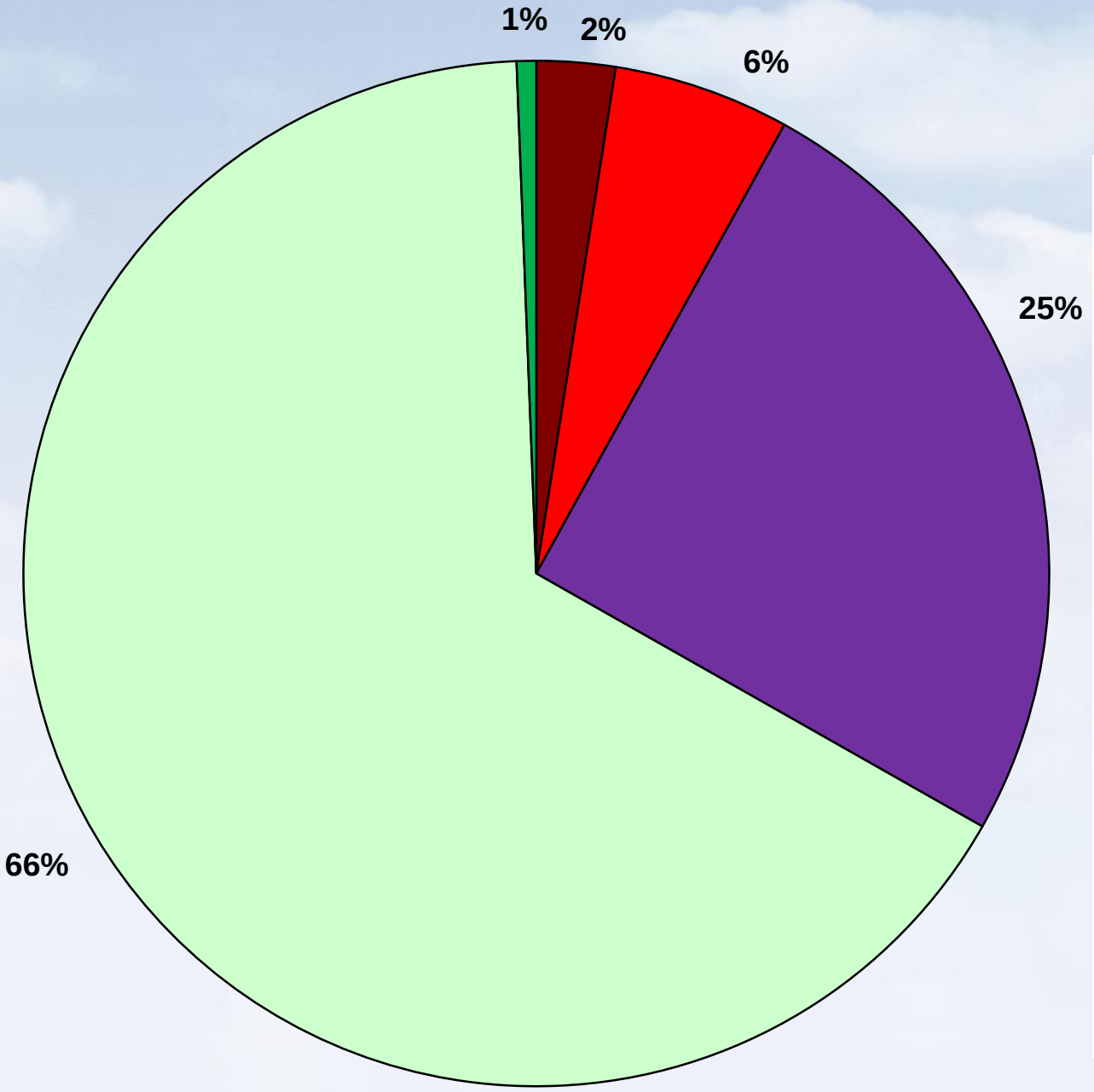
(8-Hour Ozone Nonattainment Area Total =129,129 tons/yr)



MCAQD, EI Unit, Jan. 2014

2011 NO_x Emissions Inventory

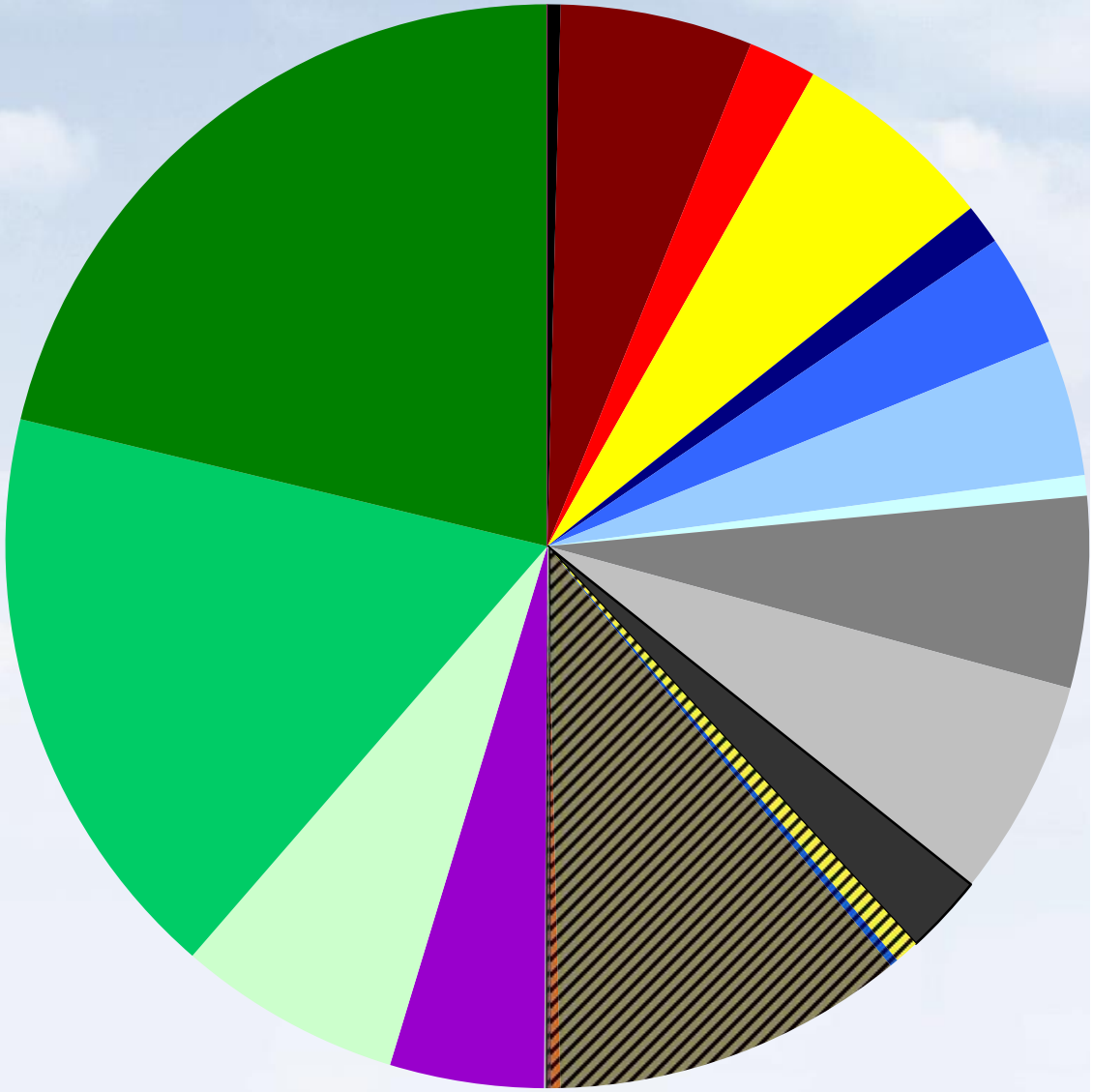
(8-Hour Ozone Nonattainment Area Total = 85,928 tons/yr)



MCAQD, EI Unit, Jan. 2014

2011 PM_{10} Emissions Inventory

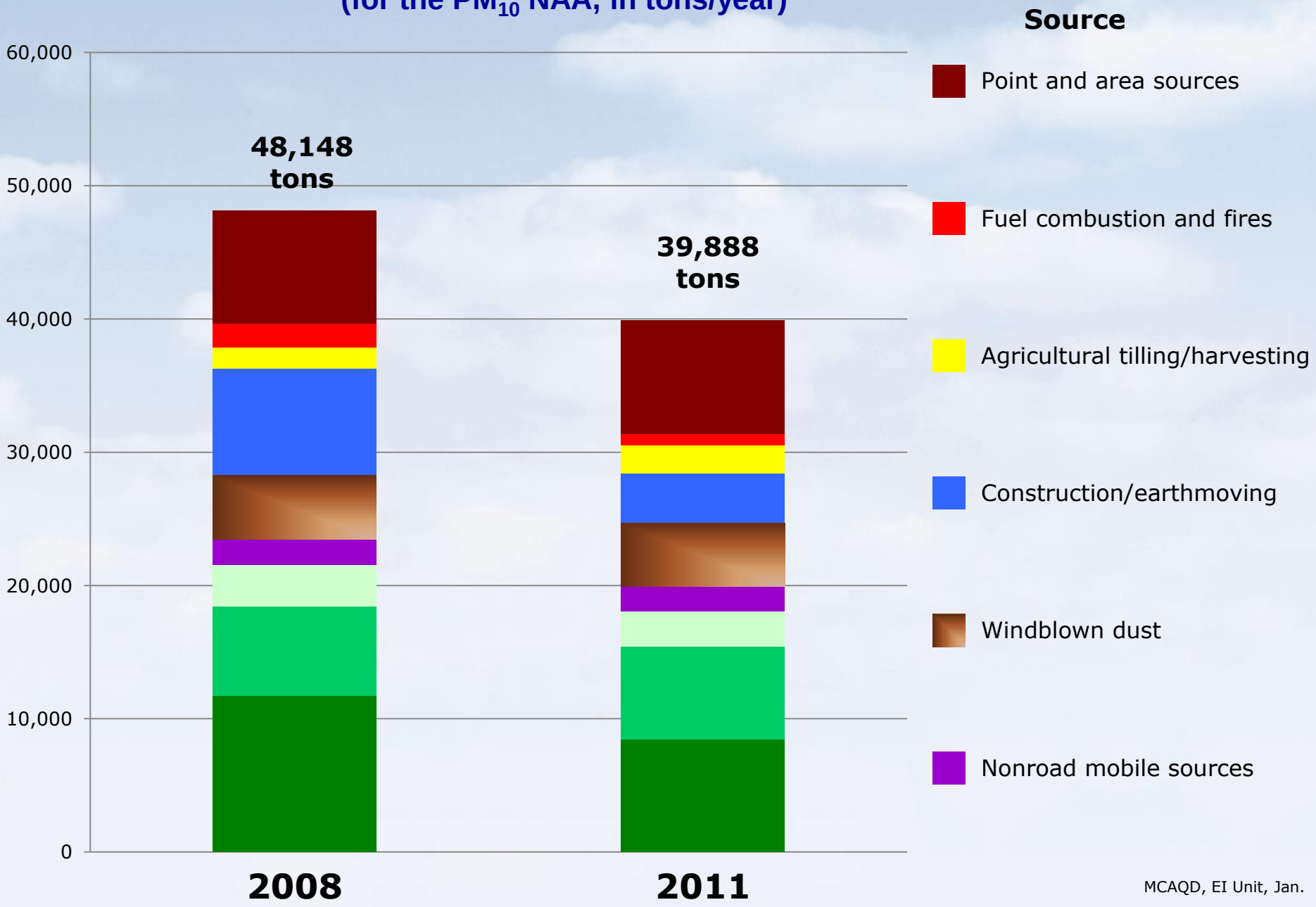
PM_{10} NAA Total = 39,888 tons/yr



Source Categories	%
Major stationary point sources	(<0.5%)
All other industrial processes	(6%)
Fuel combustion and fires	(2%)
Agricultural tilling/harvesting	(6%)
Construction, residential	(1%)
Construction, commercial	(3%)
Construction, road	(4%)
Other earthmvg: trenching, weed control	(1%)
Travel on unpaved parking lots	(6%)
Offroad recreational vehicles fugitive dust	(7%)
Leaf blowers fugitive dust	(2%)
Windblown: agricultural land	(1%)
Windblown: developing land	(<0.5%)
Windblown: vacant & open areas	(11%)
Windblown: sand/gravel, mining	(<0.5%)
Windblown: other (landfills, public, etc.)	(<0.5%)
Nonroad mobile sources	(5%)
Vehicle exhaust, tire wear, brake wear	(7%)
Paved road fugitive dust, including trackout	(17%)
Unpaved road fugitive dust	(21%)

MCAQD, EI Unit, Jan. 2014

Annual PM_{10} Emissions by Source Category
(for the PM_{10} NAA, in tons/year)



MCAQD, EI Unit, Jan.

Reporting Results

Written Reports:

- 150-pp. "cookbooks" describing how emissions from each source category were estimated.
- Detailed documentation specifies the procedures used to collect (or estimate) input data, sources of data, calculation methods used, and any simplifying assumptions made. Includes thorough documentation of reference materials used, with full citations.

Electronic Data Sets to EPA:

- Suite of standardized, detailed descriptions of emission calculation methods and results.
- Become part of the National Emissions Inventory (NEI).

Bob Downing

Phone: (602) 506-5790

Email: EmisInv@mail.maricopa.gov

Maricopa County
Air Quality Department

Richard Sumner, PE
Permitting Manager

Minor New Source Review

and

Emissions Offsets

Overview

- Adopted February 3, 2016 by County Board of Supervisors
  - 12 Rules final and effective
  - Submitted to EPA
  - Incorporate into SIP late 2016
- New Requirements for Non-Title V Permitting
- New Requirements for Minor NSR
- **Air Quality Assessment (i.e., Modeling)**

Minor New Source Review

Minor NSR Applies:

- To a new stationary source which exceeds the permitting threshold, or
- To a *Minor NSR Modification* which increases the source's *potential to emit* greater than the *Minor NSR threshold*

Minor NSR Modification Thresholds

Pollutant	Potential to Emit In Tons Per Year (TPY)*
$PM_{2.5}$ (Primary Emissions)	7.5
PM_{10}	7.5
SO_2	20
NO_x	20
VOC	20
CO	50
Pb	0.3

*No Netting

NAAQS Compliance

- Goal is to support and comply with the National Ambient Air Quality Standards (NAAQS)
- An ambient air quality impact analysis shall be conducted upon the Control Officer's request for:
  - New permits
  - Minor NSR modifications

Modeling Process

- Five step process:
  - Step 1: Does the source trigger modeling?
  - Step 2: Significant impact analysis (Screen)
  - Step 3: Screen model with background compared to NAAQS
  - Step 4: Significant impact analysis (Refined)
  - Step 5: Refined model with background compared to NAAQS

NAAQS Compliance

- Adjustments to the emission profile may be required.
- Stack heights could be increased.
- Permit conditions may be added to ensure compliance with NAAQS.
- Application will be denied if compliance not demonstrated.


Questions?

Emission Reduction Credits

- **Background**: ERCs are needed to offset emissions from major modifications or new projects subject to nonattainment New Source Review

- **Problem**: Insufficient ERCs exist to support large new or expanded projects.

Generating Credits

- **Solution**-Generate additional credits by:
  - Certifying shutdown credits
  - Over controlling ongoing processes and banking the credits

The Requirements

- Must be in the latest inventory
- Credits must be certified by MCAQD
- Certification requires the following:
  - A Reduction in **Actual** Emissions
  - A Quantifiable Reduction
  - A Permanent Reduction
  - An Enforceable Reduction
  - Surplus to Regulatory Requirements

The Process

- Decide on actual reductions
- Complete the Emission Reduction Credit Application
- Submit to MCAQD
- MCAQD will certify or deny credits
- (Optional) Place in the Arizona Emissions Bank
- Available for use or sale


Questions?

Richard Sumner

Phone: (602) 506-1842

Email: RichardSumner@mail.maricopa.gov

BREAK

Up Next:
Honeywell

Maricopa County
Air Quality Department

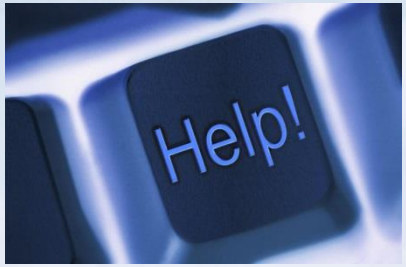
Maria Cody
Travel Reduction and Outreach Division

OUTREACH

BUSINESS ASSISTANCE • SCHOOL EDUCATION OUTREACH • TRAVEL REDUCTION PROGRAM • CLEAN AIR MAKE MORE • OZONE AND NO BURN CAMPAIGNS

Business Assistance Program

Goal is to provide information and technical assistance to permitted and un-permitted businesses related to AQ rules and regulations



Permit Application Assistance

Courtesy Inspections

Rule Interpretation and Education

Case Review

Business Assistance Program

- Hired a Business Assistance Associate
  - Scott Tallini
- Case Reviews: 32
- Courtesy Site Visits: 35
- Outreach Meetings: 13
- Program Briefings: 8

Business Assistance Program

Major Outreach Initiatives

- General Permit Help Sheets
- New Permittee Assistance
- Calculation Sheets/Recordkeeping Assistance
- Educational Presentations to Industry Associations
- Weed Abatement Campaign (Spring)
- Overseeding Campaign (Fall)

Dry Cleaning
General Permit Help Sheet

Maricopa County
Air Quality Department

The purpose of this help sheet is to provide additional information to new and existing Dry Cleaning General Permit holders.

Please note the information provided in this toolkit is not all inclusive of the permit conditions. Please ensure you fully read, understand, and comply with all permit conditions, as you are still subject to the entirety of the permit and all applicable rules.

I Have a Permit. Now What?

By understanding these key responsibilities, you may avoid many common non-compliance pitfalls.

- **POST** your permit
- **PAY** your annual fee
- **RENEW** your permit prior to the expiration date
- **MAINTAIN** your records
- **READ** and **FOLLOW** the permit

Avoid Common Violations By:

- **Posting your permit in a visible location**
- **Paying the annual fee**
  The annual fee is due one year from the date of permit issuance. A reminder is mailed to the permit holder prior to the due date. To ensure you receive these reminders, please update your contact information by completing a Contact Information Update Form.
- **Renewing your permit prior to the expiration date**
  The Dry Cleaning General Permit expires on January 16, 2021. The Renewal Application can be found on our website.
- **Maintaining records properly** (see Recordkeeping Requirements, page 2)
- **Covering all solvent containers**
  Water separators, buckets, sparging units and any other containers with solvent must be covered to minimize emission release.

How Do I Prepare for an Inspection?

Understanding and preparing for your inspection will make the process easier and you are less likely to be found in non-compliance. Here are some helpful tips to be prepared:

- Educate all employees on what to expect if an inspector arrives on-site.
- Maintain your records so they are easily accessible.
- Ensure permit is posted.
- Keep the equipment Owner's Manual on-site.
- Cover any solvent-containing material, including wastewater.
- Verify equipment is operating properly per owner's manuals.
- Check perc detector is operational.
- Check for any noticeable odors.
- Ensure that separator is operating properly (see Areas of Concern).

07/03/2016

1

School Education Outreach

School Education Outreach Program

- Educate children & families on the importance of clean air
  - Engaging, interactive & aligned to current Arizona academic standards
  - Includes Resource Kits and Smart Board Lessons
- Establish High Pollution Advisory Alerts and guidance for schools

School Education Outreach

Pilot Results

5 - School Districts
8 - Schools
17 - Teachers
540 - Students

"I thought the program was wonderful and I can't say enough good things about it. My students really enjoyed learning about air quality."

K-2 Teacher

4 - Title I Schools
1 - Special Ed Classroom
1 - ELL Classroom
1 - Gifted Classroom

School Education Outreach

On-Going Outreach Initiatives

- High Pollution Advisory Notices to Schools
- High Pollution Advisory School District Policy Development
- Middle School Pilot Curriculum
  - Personal Air Monitoring Sensors
  - Car Idling Project

Travel Reduction Program

- **Why**: to improve air quality by affecting a long-term change in the commuting behavior of employees and students

- **How**: by implementing plans and strategies at employers with 50+ employees that positively impact commuters' choice of mode

- **What**: reducing single occupant vehicle (SOV) trips and/or the single occupant vehicle miles traveled

Travel Reduction Program

- 2,985 sites in the TRP representing 1,158 companies
- Over 796,000 annual surveys and analyzed
- 1323 site audits completed
- TRP Regional Task Force met monthly and approved 1,162 annual TRP plans
- 18,090 tons of pollution were avoided

Maria Cody

Phone: (602) 506-6936

Email: Maria Cody@mail.maricopa.gov

Maricopa County
Air Quality Department

Bob Huhn
Communications Supervisor and PIO

Website & Mobile App Upgrades

- CleanAirMakeMore.com website now mobile friendly
- Same “look and feel” for App and Website
- You can post App alerts directly to personal social media accounts
- New hybrid design allows website and app to adjust to any mobile device

27k+ App Downloads

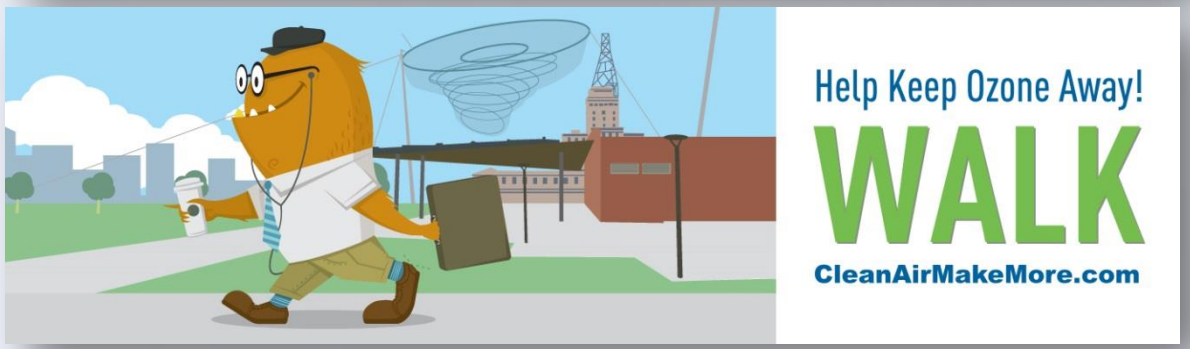
Available on the App Store

Get it on Google play

Ozone Campaign (April – September) :

- Billboards
- Light rail wrap
- Mascot Character
- Radio Ads & PSAs
- Community Newsletters

Billboards



Rev 8/5/2016

Billboards *continued…*

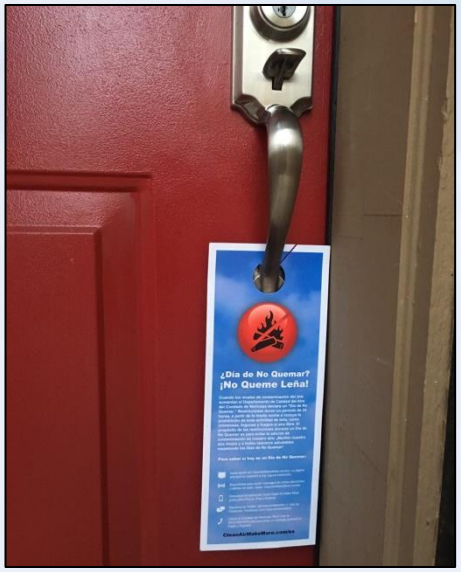
TV Spot

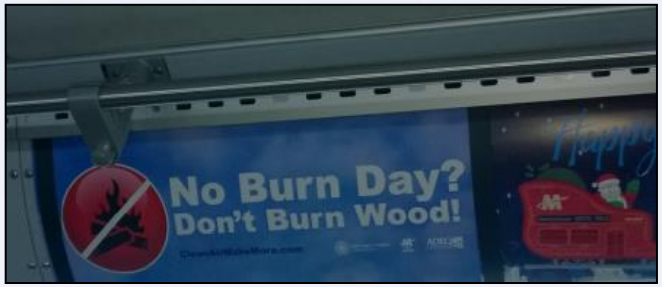
Air Quality Dept. Mascot

No Burn Campaign Recap (Dec.- Jan.)

Outreach

- **Billboards** (English/Spanish)
- **ADOT Signs**
- **TV, Radio, Newspaper** (En/Sp)
- **Grocery Store Signage, Weekly Ads & In-house Radio**
- **Residence Door-hangers (English/Spanish)**
- **Public & Private Partnerships**
- **Social Media**





Social Media Dec. 20 – Jan. 2

BEST

FACEBOOK

51,450 Views (***10,768*** *last season)*

PROMOTED *(paid)* to Boost Posts

MOBILE APP

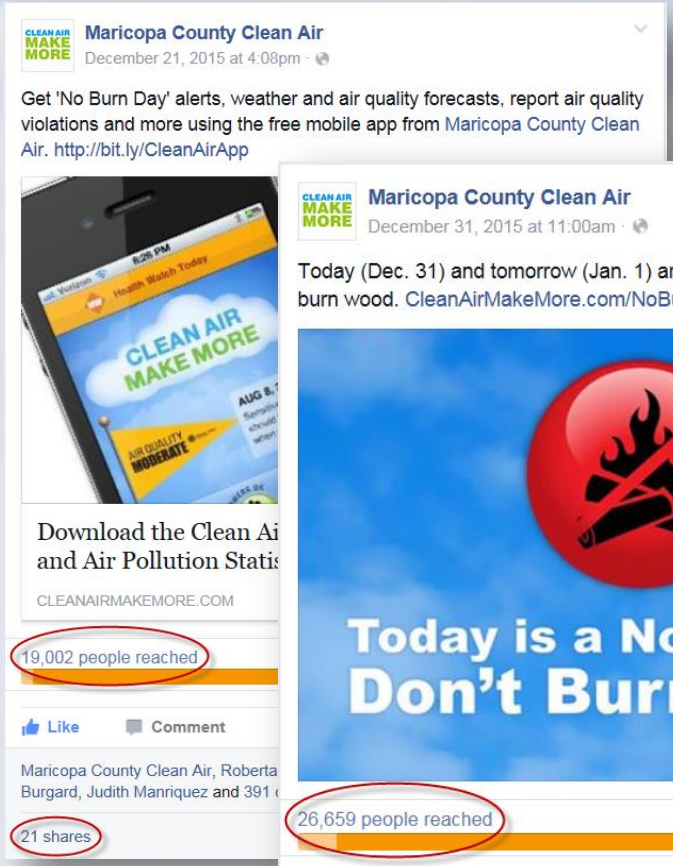
820 App Downloads from Boost

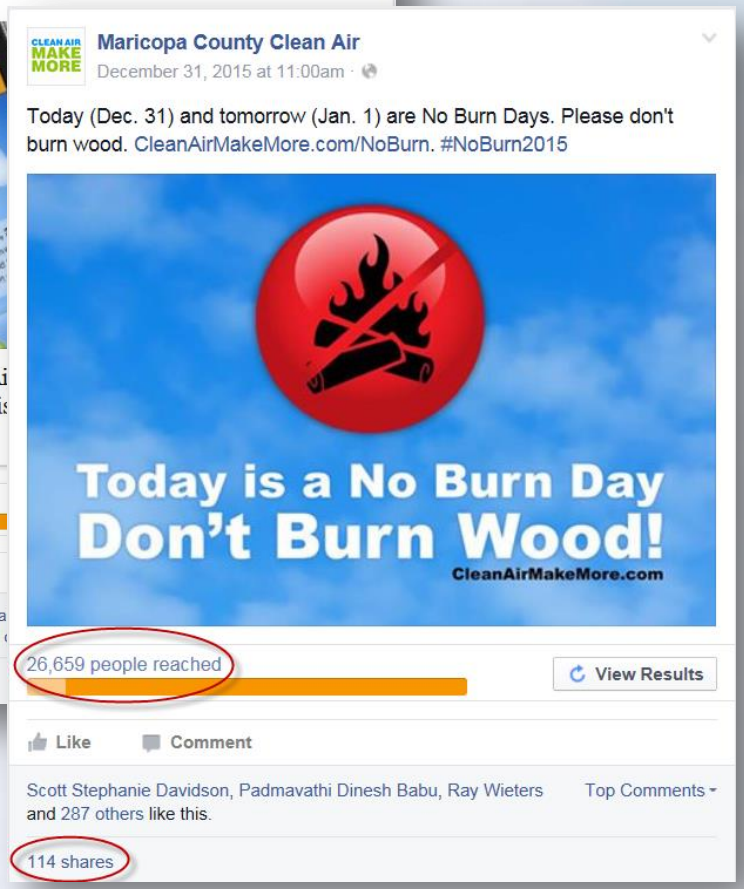
*Weekly app downloads increase by **168%***

TWITTER

19,910 Impressions

*(**2,885** last season)*





Media Coverage Dec. 20 – Jan. 2

Media Requests: 34

Viewership

756,084	TV Local
2,100,217	Online & Newspaper Local
38,839,606	Online & Newspaper across US

Ad Value

$69,015.51	TV Local
$938.13	Online & Newspaper Local
$26,076.12	Online & Newspaper across US

Bob Huhn

Phone: (602) 506-6713

Email: BobHuhn@mail.maricopa.gov

Maricopa County
Air Quality Department

Ben Davis
Air Monitoring Manager


EXIT 155
10 EAST
Tucson
Baseline Rd
Guadalupe
1/4 MILE
EXIT 154
60 EAST
Mesa - Globe


mobile mini
STORAGE SYSTEMS
1-800 950-MINI
KONECRANES
mobile mini, inc.

< 1999

2016 >

"Air Quality Circle"

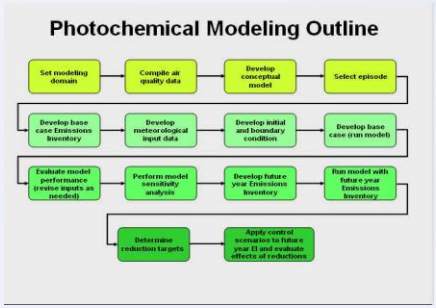
Permitting

Compliance

The Air Monitoring Division answers one general question.

"What is the Air Quality in Maricopa County?"

Planning / Rules



Air Monitoring

Enforcement

Monitoring Objectives

- Provide air pollution data to the general public in a timely manner.
- **Support and determine compliance with National Ambient Air Quality Standards (NAAQS).**
- Support for air pollution research studies.

Monitoring Site Types

- Measure highest concentrations
- Measure typical concentrations in areas of high population density.
- Determine the impact of significant sources or source categories
- Determine general background concentration levels.
- Determine the extent of regional pollutant transport among populated areas and in support of secondary standards.
- Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

Number of Criteria Pollutants Monitors

Type	Amount
Carbon Monoxide	14 (6)
Ozone	18
Particulates - PM-10 and PM-2.5	16+8 = 24
Nitrogen Dioxide	6
Sulfur Dioxide	2
Lead (Airborne)	1

Air Monitoring Network

	Amount
Number of Sites	25
Total number of Pollution Monitors	71
Total Active Instruments	188
Total amount of data going to EPA (1-hr)	1,051,442
Total Amount of all data (1-hr & 5-min)	**12,594,402**
EPA 2015 Pollution Data Completeness	98.3%

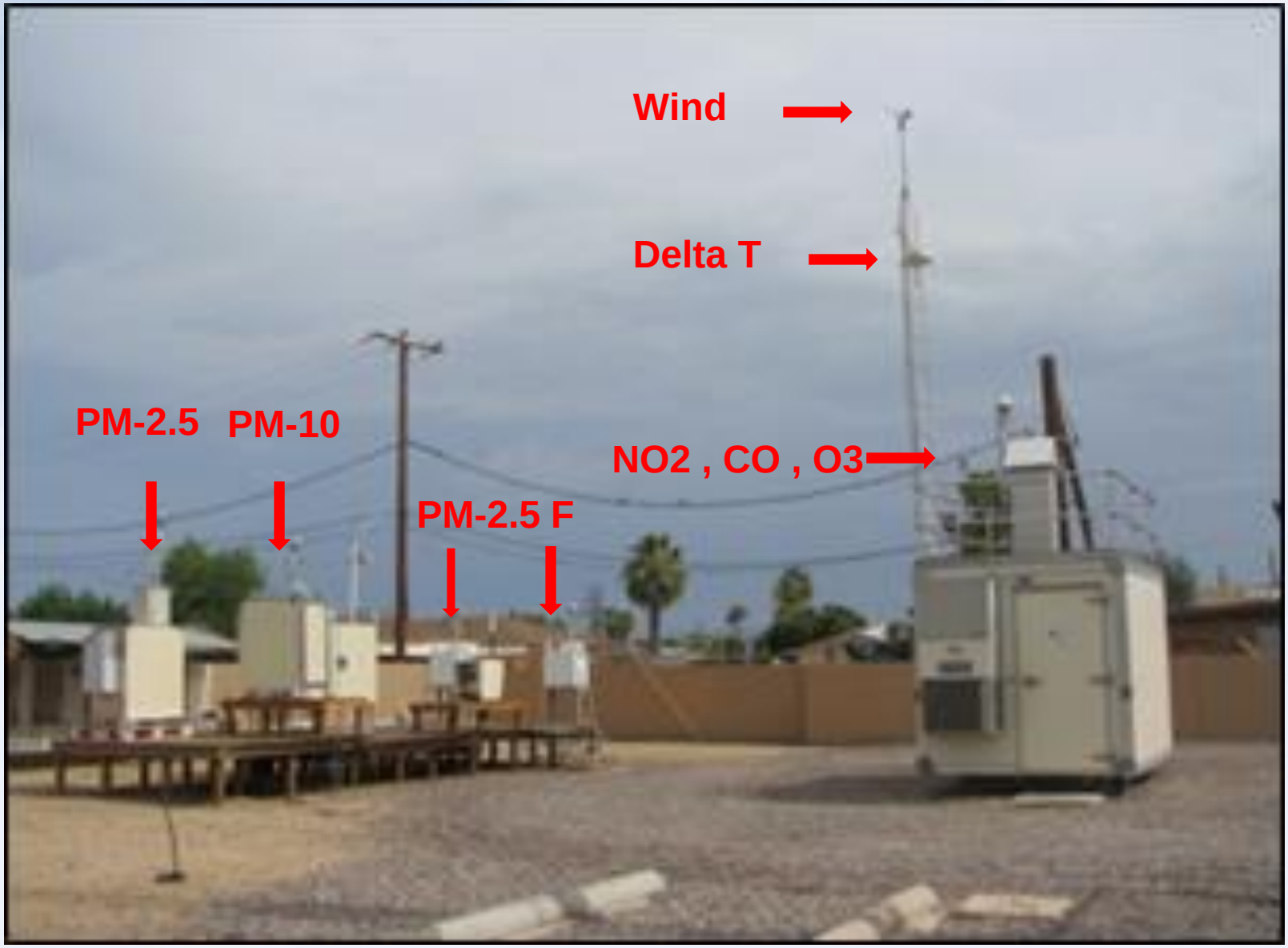
Air Monitoring Personnel

	Amount
Number of employees	18
Quality Control Section (QC)	8
Quality Assurance Section (QA)	6
Data Section	2
Quality Assurance Officer	1
Environmental Specialist	1

Pollutants Measured

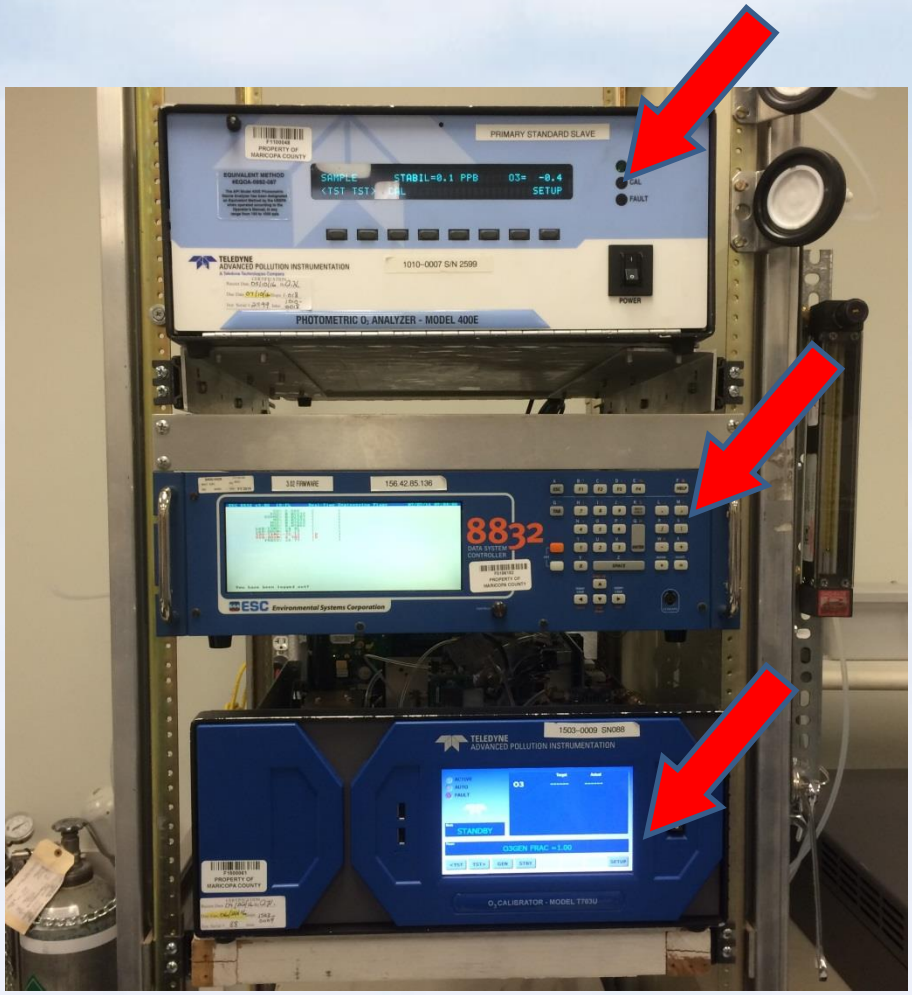
- Criteria Pollutants
  - Ozone
  - Carbon Monoxide
  - Nitrogen Dioxide
  - Sulfur Dioxide
  - Lead
  - Particulates
- Air Toxics
  - Combustible Gas
  - Hydrogen Sulfide
  - Chlorine
  - Ammonia
  - Perchloroethylene
- Speciation
  - PM-2.5

West Phoenix Site



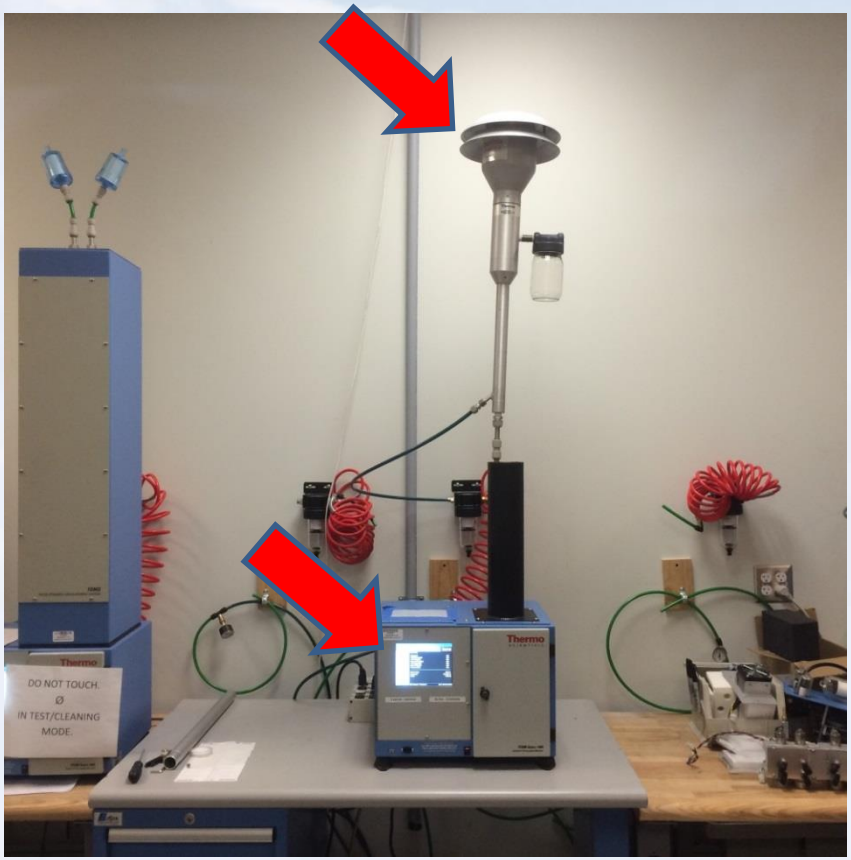
Ozone Monitor

- Teledyne Advance Pollution Instruments (API)
- Model 400E
- UV Absorption Ozone Analyzer

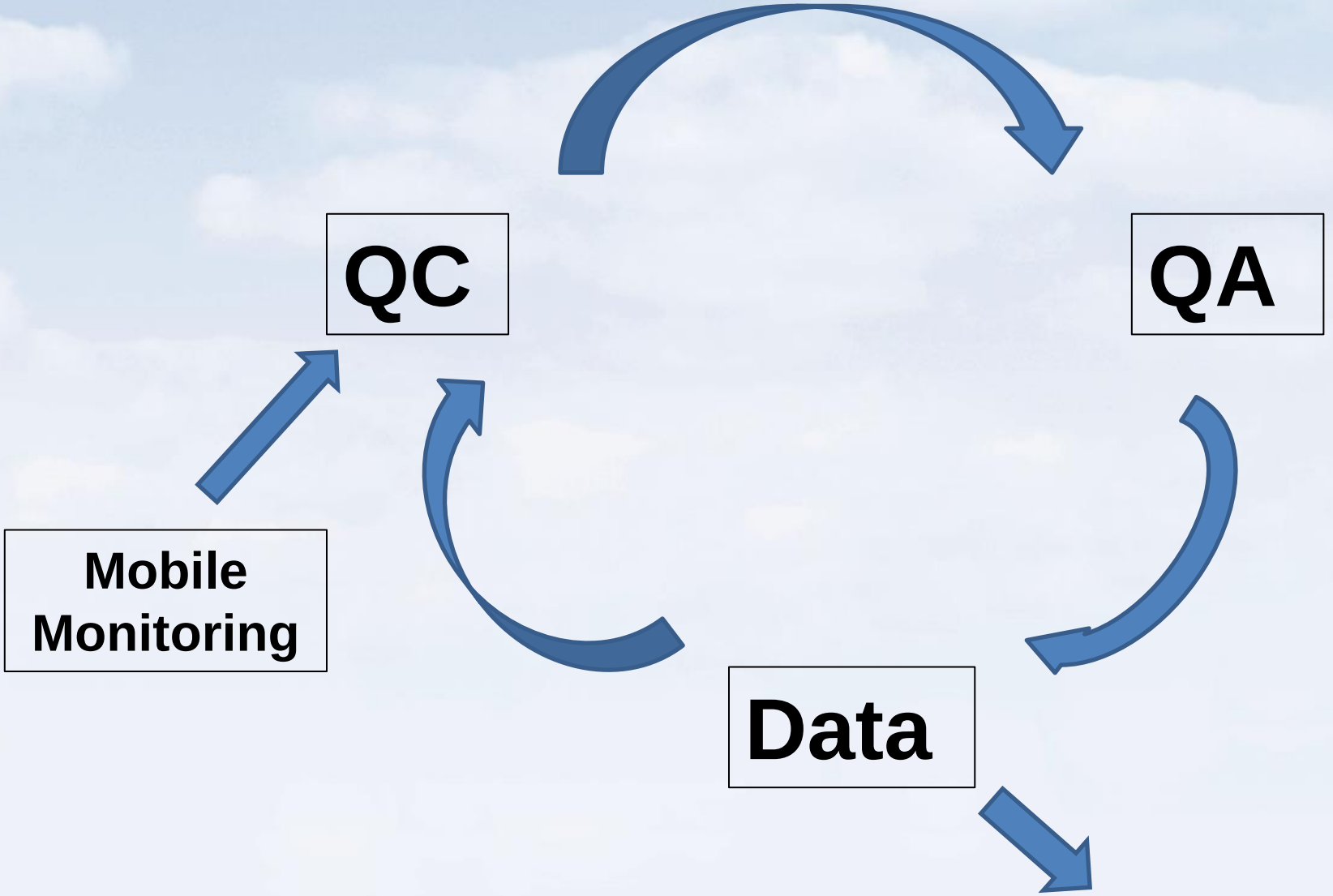


PM-10 Monitor

- Thermo - Tapered Element Oscillating Microbalance (TEOM)
- Model 1405 (FEM)



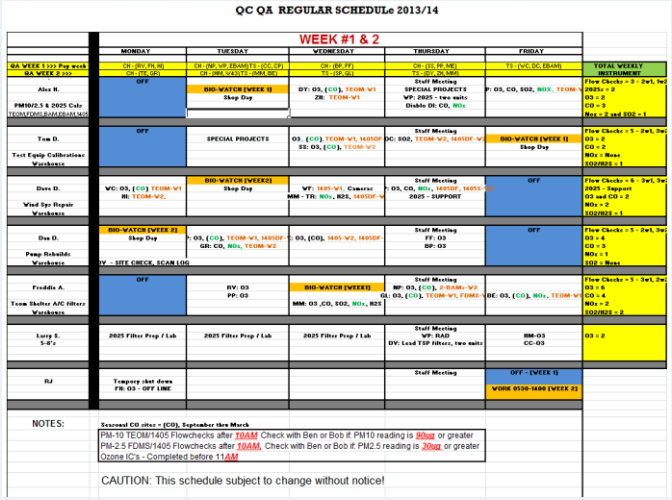
Air Monitoring Operations



Quality Control "QC"

Robert Dyer

- Day to Day operation of the Monitors and Network
- Checking Data Daily
- Site Maintenance
- Maintaining Calibrations
- Repair Monitors



QC QA REGULAR SCHEDULe 2013/14

WEEK #1 & 2

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	TOTAL WEEKLY INSTRUMENT
GA WEEK 1 >>> Pop week GA WEEK 2 >>>	CH - (RV, FH, IR) CH - (TE, GR)	CH - (NP, VP, EBAM/TE - (CC, CP) CH - (MM, VASILT) - (MM, BE)	CH - (EF, FF) TS - (SP, GL)	CH - (SS, RP, ME) TS - (BT, ZK, MM)	TS - (VC, EC, EB-AM)	
Alex R. PM10/2.5 & 2025 Calz	OFF	BIO-WATCH [WEEK 1] Shop Day	DT: O3, (CO), TEOM-W1 ZR: TEOM-W1	Staff Meeting SPECIAL PROJECTS VP: 2025 - two units Diablo Dt: CO, NOx	P: O3, CO, SO2, NOX, TEOM-	Flow Checks = 3 - 2wl, 1w 2025s = 2 O3 = 2 CO = 2 Nox = 2 and SO2 = 1
Tom D. Test Equip Calibrations/ Warehouse	OFF	SPECIAL PROJECTS	O3, (CO), TEOM-W1, 1405DF SS: O3, (CO), TEOM-W2	Staff Meeting DC: SO2, TEOM-W2, 1405DF-W	BIO-WATCH [WEEK 1] Shop Day	Flow Checks = 5 - 2wl, 3w O3 = 2 CO = 2 NOx = None 102/RES = 1
Dave D. Wed Spr Repair Warehouse	VC: O3, (CO) TEOM-W1 IR: TEOM-W2,	BIO-WATCH [WEEK2] Shop Day	WF: 1405-W1, Cameras MM - TR: NOx, B2S, 1405DF-W	Staff Meeting ?: O3, CO, NOx, 1405DF, 1405-W2 2025 - SUPPORT	OFF	Flow Checks = 5 - 3wl, 2w 2025 - Support O3 and CO = 2 NOx = 2 102/RES = 1
Dan D. Pump Rebuild/ Warehouse	BIO-WATCH [WEEK 2] Shop Day DV - SITE CHECK, SCAN LOG	?: O3, (CO), TEOM-W1, 1405DF-?; O3, (CO), 1405-W2, 1405DF GR: CO, NOx, TEOM-W2		Staff Meeting FF: O3 BP: O3	OFF	Flow Checks = 5 - 2wl, 3w O3 = 4 CO = 2 NOx = 1 102 = None
Freddie A. Team Shelter A/C filters/ Warehouse	OFF	RV: O3 PP: O3	BIO-WATCH [WEEK1] MM: O3 ,CO, SO2, NOx, B2S	Staff Meeting NP: O3, (CO), P-BAM(-W2 GL: O3, (CO), TEOM-W1, FDMS-W2 DE: O3, (CO), NOx, TEOM-W		Flow Checks = 5 - 3wl, 2w O3 = 6 CO = 4 NOx = 2 102/RES = 2
Larry S. 5-8's	2025 Filter Prep / Lab	2025 Filter Prep / Lab	2025 Filter Prep / Lab	Staff Meeting WP: RAD DV: Lead TSP filters, two units	BM-O3 CC-O3	O3 = 2
RJ	Temporary shut down FH: O3 - OFF LINE			Staff Meeting	OFF - [WEEK 1] WORK 0530-1400 [WEEK 2]	

NOTES:

Seasonal CO sites = (CO), September thru March

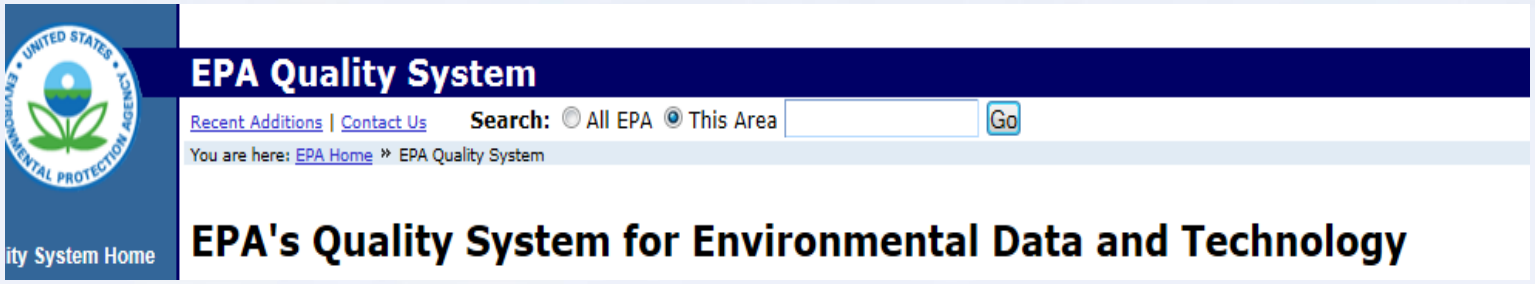
PM-10 TEOM/1405 Flowchecks after 10AM Check with Ben or Bob if PM10 reading is 90ug or greater
PM-2.5 FDMS/1405 Flowchecks after 10AM, Check with Ben or Bob if PM2.5 reading is 30ug or greater
Ozone IC's - Completed before 11AM

CAUTION: This schedule subject to change without notice!

Quality Assurance "QA"

Rey Santillano

- Meets or Exceeds all EPA Air Monitoring Regulations.
- Special Projects
- Bio-Watch Program
- Site Installation

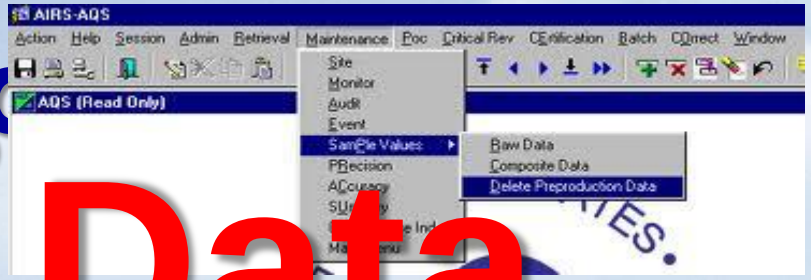


Quality Assurance "QA"

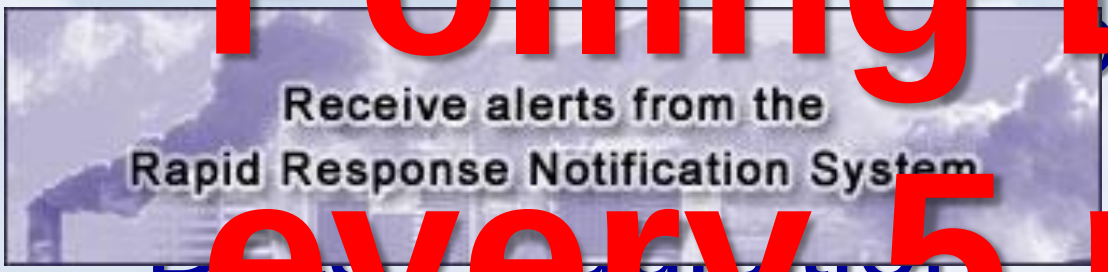
- QA Officer (Gary Ensminger)
  - Develop and maintain a Quality System
  - Following all EPA Requirements
  - Coordinate Internal and External Audits
  - Writing SOP, QAPP, and QMP
  - Validating Data

Data Sec

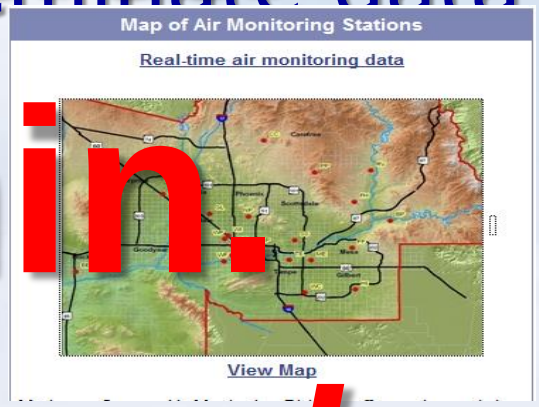
EPA - NAAQS



Polling Data every 5 min.



Dissemination data



- Data Acquisition
  - Polling data
- Data Alarms
- Data Validation
  - 3 Levels
- Documents
  - Network Plan, Daily etc.
- Public Data Request

24hr / 7days / 365 year

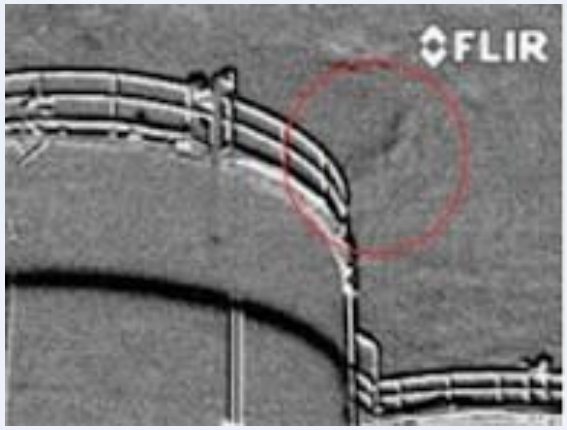
Mobile Monitoring Program

- Case Studies
  - Ex. Speciation Study
- Complaint Investigations
  - Ex. Working with Compliance
- Public Education
- Emergencies

Complaint Investigation

FLIR GF300 Gas-Find-IR

- What can it do?
  - Identification of both organic & inorganic compounds:
    VOCs: Benzene, Styrene, Toluene, etc.
- How is it being used
  - Working with Inspectors



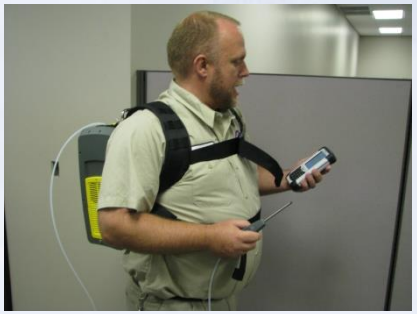
Area-RAE and Multi-RAE

Can detect different compounds including:

- Oxygen
- Combustible Gas
- VOC’s
- Ammonia
- Chlorine
- Hydrogen Cyanide

Fourier Transform Infrared Spectroscopy (FTIR)

- Can detect a wide range of compounds including:
  - **Ammonia**
  - **Benzene**
  - **Carbon Monoxide**
  - **Hydrochloric Acid**
  - **Hydrogen Cyanide**
  - **Hydrofluoric Acid**



Emergency Response

Bio-Watch

BioWatch

From Wikipedia, the free encyclopedia

BioWatch is a United States Federal Government pr
Diego, Boston, Chicago, San Francisco, Atlanta, St. I
was announced in President George W. Bush's State

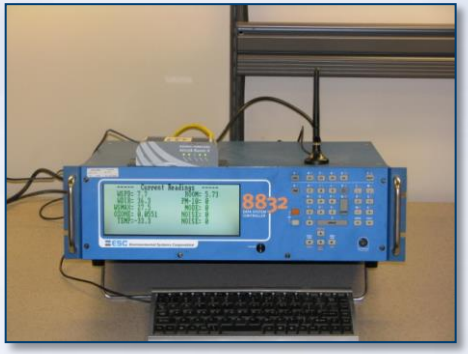
Daily Operations

Emergency Response Capabilities

Meteorology

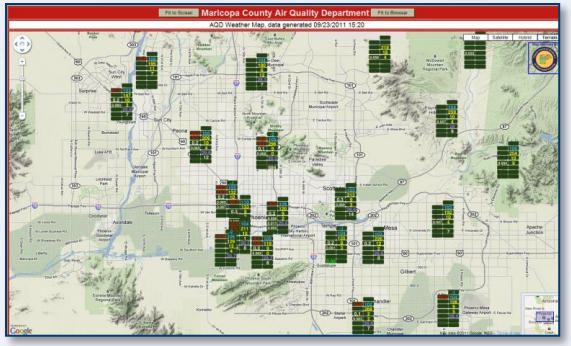
Criteria Pollutants

Data Acquisition System



Air Toxics

Data Summary



Deployments

Special Events

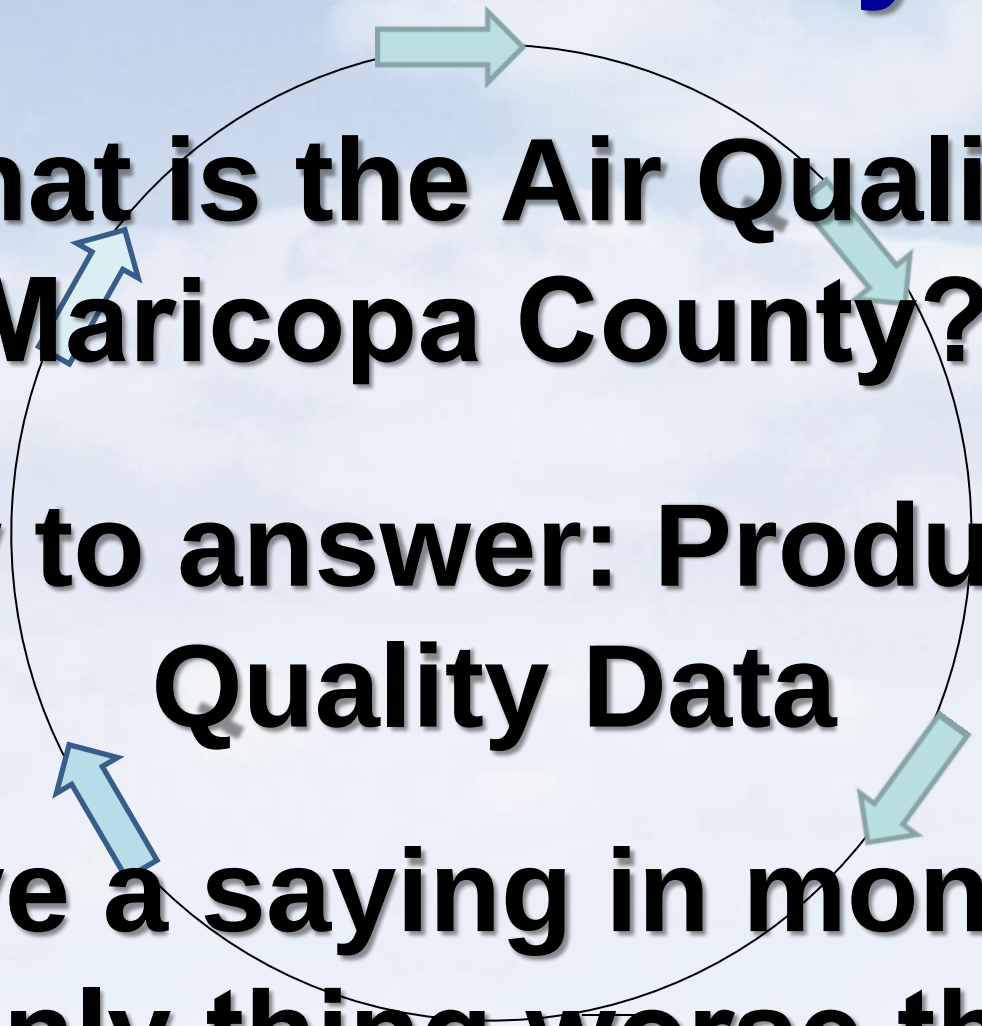
Deployments

Wild Fires

Deployments

Mulch Fires

In Summary



"What is the Air Quality in Maricopa County?"

How to answer: Producing Quality Data

We have a saying in monitoring "The only thing worse than no data is bad data."


YOUR DATA IS BAD
AND YOU SHOULD FEEL BAD
memegenerator.net

Air Monitoring Division

Any Questions?

Ben Davis

Phone: 602-258-5155 #221

email: bdavis@mail.maricopa.gov

BREAK

Up Next:
Compliance

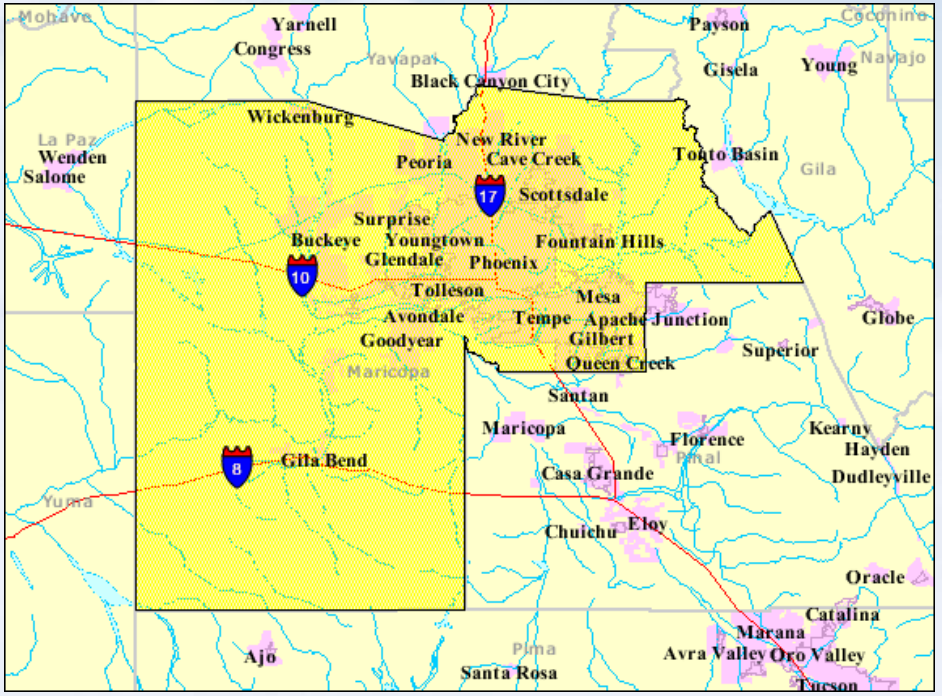
Maricopa County
Air Quality Department

Albert Leo
Compliance & Enforcement
Assistant Division Manager

Inspections, Recordkeeping, Common Violations & Rapid Response Program

Division Overview

Manager – Kimberly Butler
Assistant Manager – Albert Leo
Supervisors:
Zone 1 – David Shaw
Zone 2 – Brian Hartley
Zone 3 – Yvonne Bishara
Zone 4 – Scott MacDonald
Zone 5 – Afam Ugbor
Zone 6 – Bryan Mandalfino
Zone T – Eric Poole



See website for the zone map, program responsibilities, and contact information

What do we inspect?

Why is an inspector at my Site/ Facility?

- Routine inspection (frequency depends on type of permit)
  - Once a year
  - Every other year
  - Every 3rd year
  - 1-8 times a year
- Complaint filed about the facility or area
- Late payment of fees
- Special survey/Violations observed

How does an inspector prepare to conduct an inspection?

File Review

- Read Permit
- Review the conditions
- Review Permit Engineer notes
- Review the rules that are included in the permit
- Determine if there are fees due soon(or past due)
- Review previous inspections

What an inspector needs when they conduct the inspection?

Site tour

- Equipment
- Processes
- Controls
- Waste disposal

Records

- If it is in your permit we may ask for it
- Usage/Emissions
- Run times
- Disposal
- O&M plan information

Importance of Recordkeeping

- Creates a record that demonstrates compliance with the permit
- Confirms interaction with the permit conditions
- Identifies problems early on
- Necessary for compliance assurance
- Remember: “If it’s not written down – It didn’t happen”

Records & Inspections

Records Request

- What the inspector wants to review
- Time frame
- One of the most common violations is not keeping the records required in the permit

Inspection form

- Mailed or emailed after records have been reviewed
- If you have questions about it; call the inspector
- If violations are noted then it will be forwarded to the supervisor and potentially the Enforcement Section

Helpful Hints

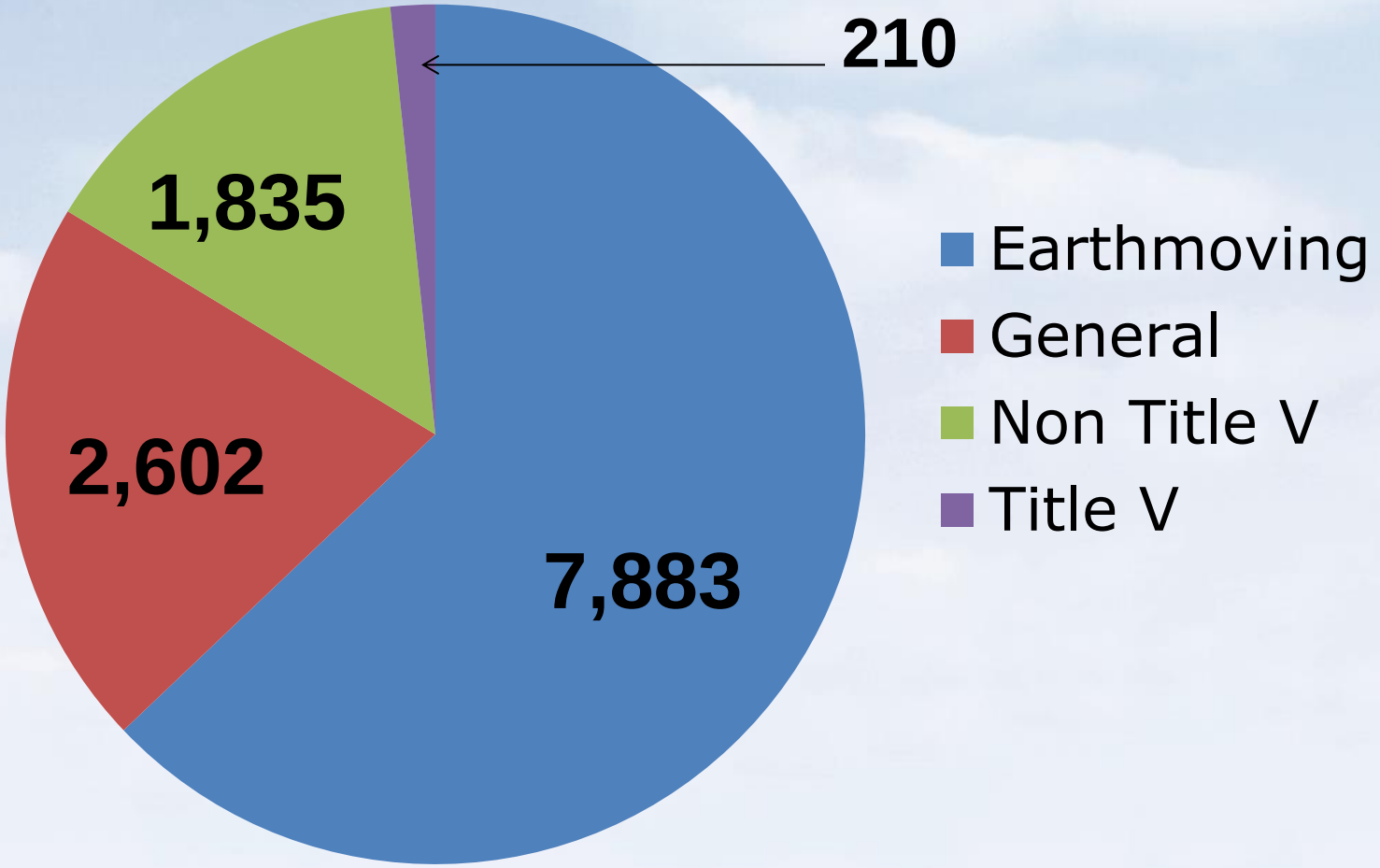
A three-ring binder for paper records

Electronic record-keeping

A copy of the permit on a computer

Photocopy of the certification cards

Total Inspections FY16



Grand Total 12,530

Maricopa County
Air Quality Department

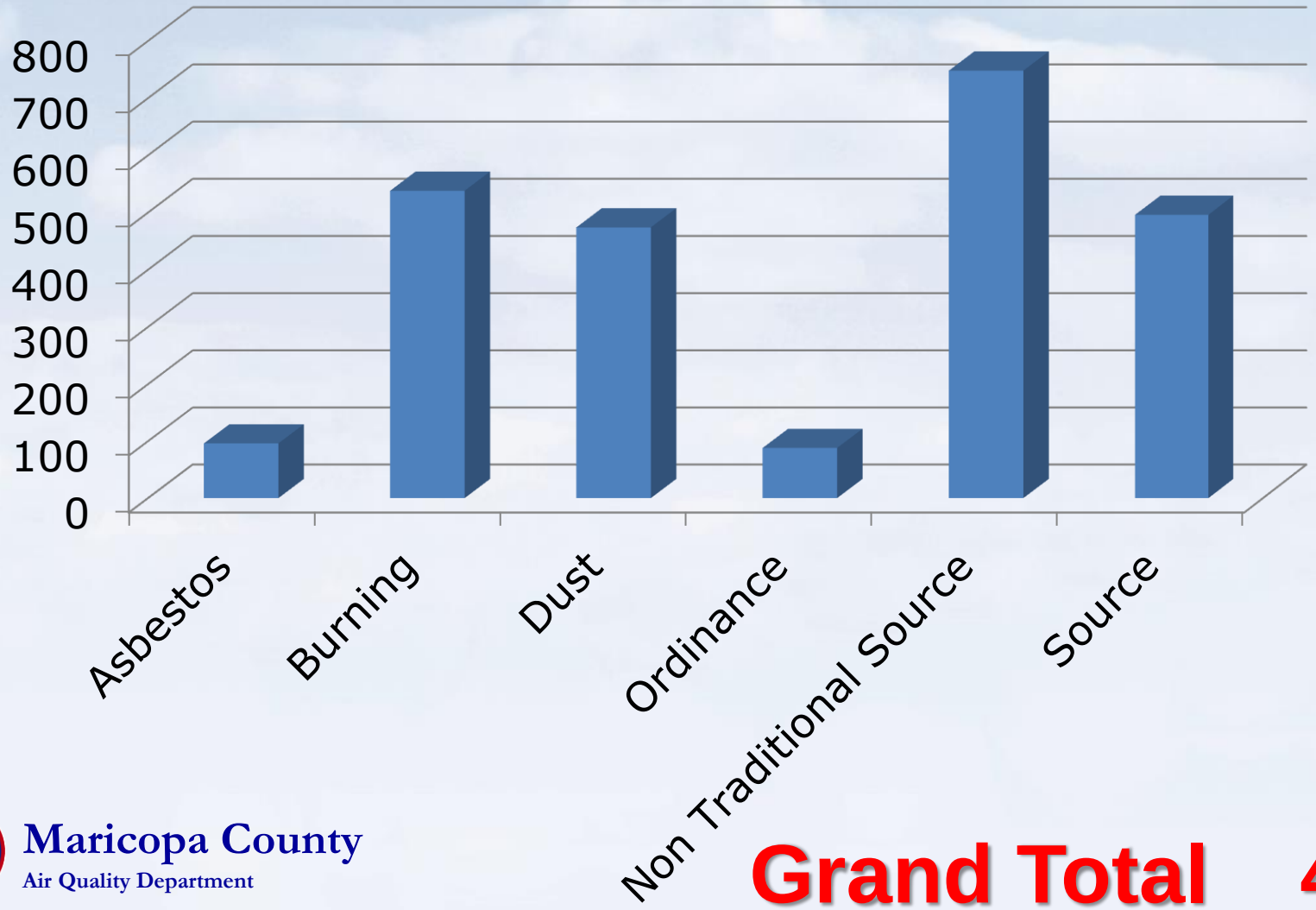
Common Violations

Top 10 Most Common Violations FY16

Total # of Violations	Type
217	Recordkeeping (Dust)
157	Gas Tank Integrity
144	Asbestos
132	No Permit (Dust)
115	Trackout (Dust)
99	Permit Required (Source)
97	Posting Permit (Dust)
80	Posting Permit (Source)
78	Gas Fill Pipe Requirement

Complaints

Total # of Complaints FY16



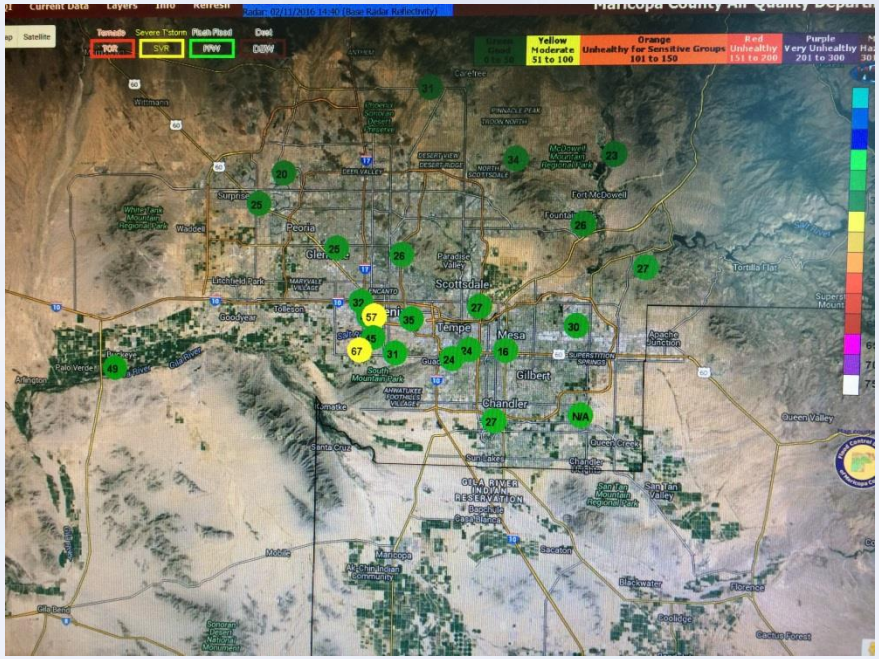
Maricopa County
Air Quality Department

Grand Total 4,311

Rapid Response Program

Department's Rapid Response Program utilizes the Air Quality Monitors, a team of Compliance Inspectors, Cities/Towns & Sources who are linked up to receive monitor alerts

- Readings of PM^{10} levels are updated every 5 minutes
- Department is alerted of spikes in PM^{10} levels, so they may be addressed immediately



Rapid Response Program

Pollutant	2015 Exceedance Days	2014 Exceedance Days	2013 Exceedance Days	2012 Exceedance Days	2011 Exceedance Days
PM_{10}	0	7	6	13	22

Rapid Response Program

How the program works:

When a Rapid Response notification is broadcast, permit holders should inspect their site and employ control measures to reduce blowing dust.

Inspectors will canvass area to look for potential sources of dust and ensure compliance with dust control standards.

Rapid Response Program

Sign up for notification of a Rapid Response events.

When dust pollution levels begin to rise, you will receive a message notifying you of where the pollution hot spot is.

Maricopa County
Air Quality Department

Rapid Response Program

How to sign up:

- Go to www.maricopa.gov/AQ .
- Click on "Receive Alerts from the Rapid Response Notification System" icon.
- Choose monitor(s).
- Register your email address, and/or phone number to receive text message alerts.

Maricopa County
Air Quality Department

Albert Leo

Phone: (602) 506-6715

Email: AlbertLeo@mail.maricopa.gov

Maricopa County
Air Quality Department

Reonsha Sullivan
Compliance & Enforcement
Senior Enforcement Officer

Enforcement

What to Expect

Purpose of Enforcement

Encourage Compliance Assurance

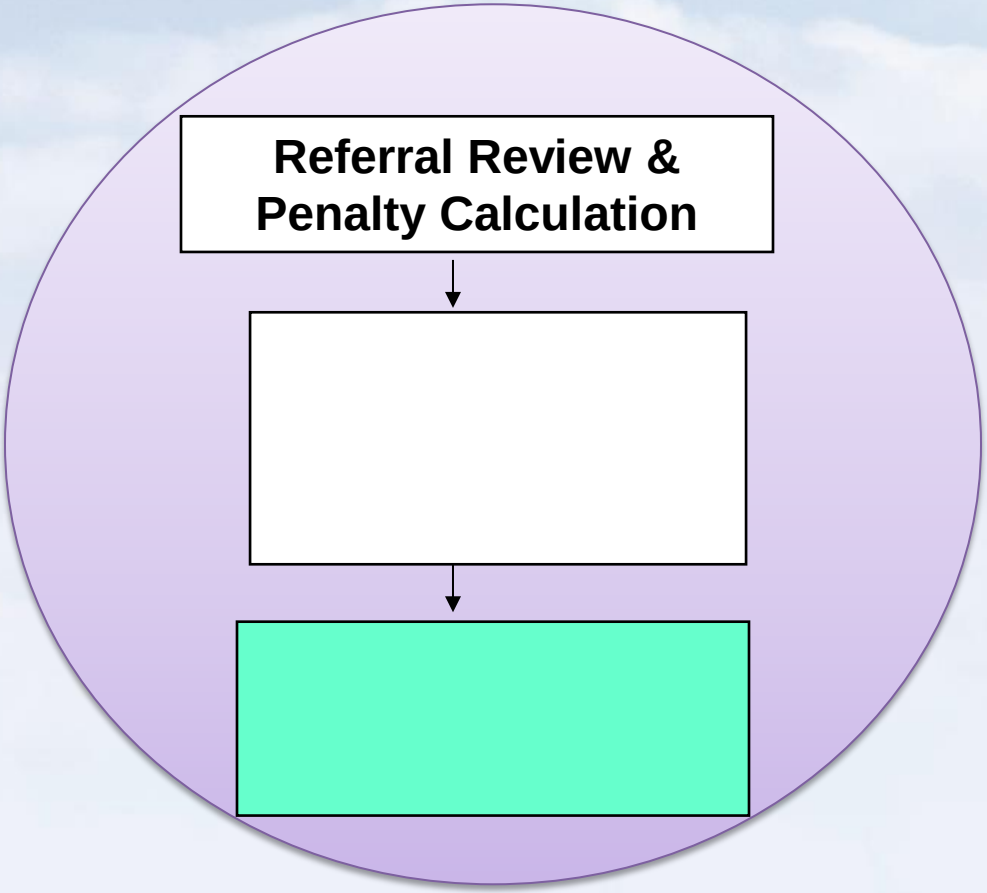
- Provide information about rules and regulations
- Review permit conditions with the Facilities to ensure continual compliance
- Review the inspector's referral report(s)
- Calculate penalties following the Department's Violation Penalty Policy
- Deter future violations
- Settle the violations with the Facility

http://www.maricopa.gov/aq/divisions/enforcement

I Received a Violation, What's Next?

- Possible NOV outcomes:
  - Not referred to Enforcement
  - No Further Action from Enforcement (NFA)
  - **Settlement of the Enforcement Action**
  - Enforcement Review (BAC)
  - Administrative Hearing
  - County Attorney's Office
  - Referral to EPA

The Settlement Process

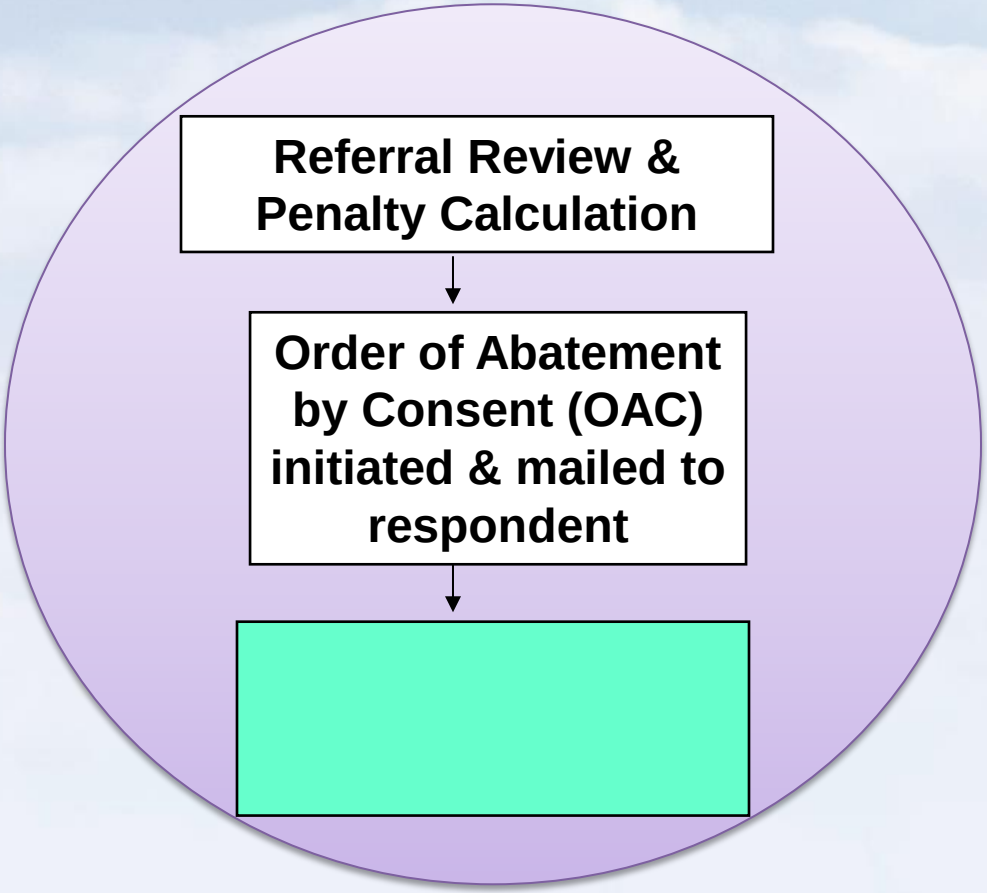


Referral Review

Enforcement officers examine information contained in the referral packages to determine the:

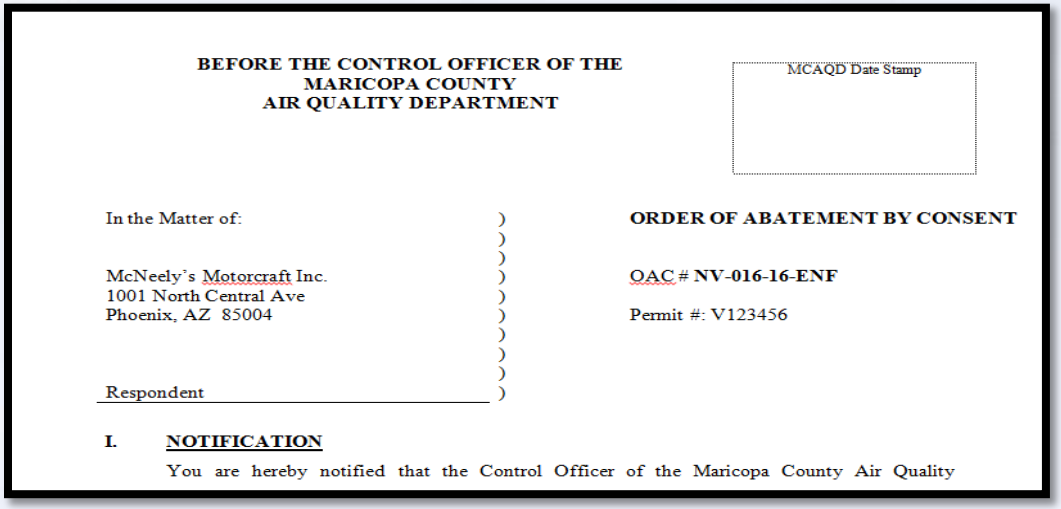
- Level of the violation
- Toxicity of the pollutant
- Risk to the population
- Risk to the environment
- Size of the violator
- Extent of deviation
- Multiple-day violations
- Willfulness / negligence
- Degree of cooperation
- Compliance history
- Economic benefit of non-compliance
- Cost recovery for enforcement efforts
- Mitigating factors

The Settlement Process



Order of Abatement by Consent (OAC)

- A legal agreement
- Outlines the penalty amount resolving the included notice(s) of violation (NOV).
- The OAC may also include possible injunctive relief, actions the respondent must take to achieve compliance, and SEP requirements.



BEFORE THE CONTROL OFFICER OF THE
MARICOPA COUNTY
AIR QUALITY DEPARTMENT

MCAQD Date Stamp

In the Matter of:

McNeely's Motorcraft Inc.
1001 North Central Ave
Phoenix, AZ 85004

Respondent

ORDER OF ABATEMENT BY CONSENT

OAC # **NV-016-16-ENF**

Permit #: V123456

I. NOTIFICATION

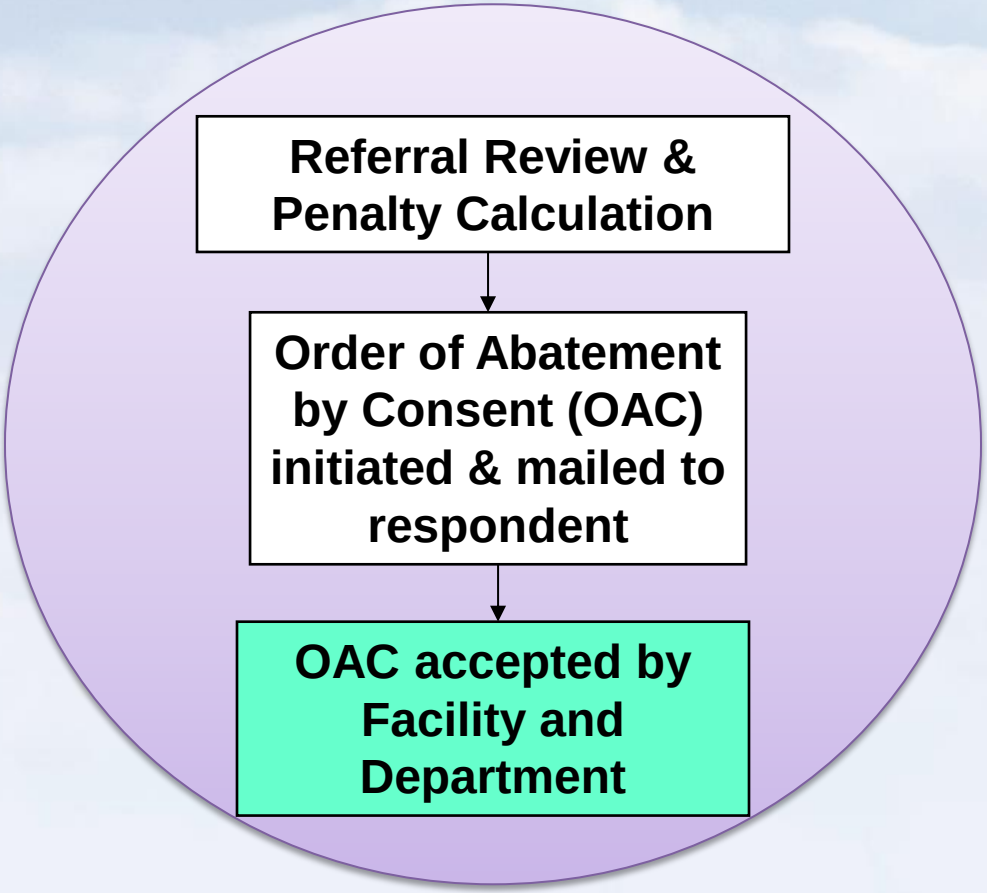
You are hereby notified that the Control Officer of the Maricopa County Air Quality

Supplemental Environmental Projects (SEP)

- An environmentally beneficial project
- All SEPs must have a strict air quality **nexus** but can address any pollutant
- The facility must notify the Department of any interest in pursuing a SEP
- Types of projects:

  Pollution Prevention, Pollution Reduction, Environmental Compliance Promotion/Research, Public Health Assessments and Audits

The Settlement Process



Penalty Negotiation

- Provide a written response that addresses the violation
- Inform the Department of mitigating circumstances that might not be addressed in the inspection report
- Include the steps taken to resolve violations (future violations)
- This is your time to inform the Enforcement Officer of facts that may reduce the calculated penalty
- After review of any written response, the Enforcement Officer will notify you of any changes to the calculated penalty

Reonsha Sullivan

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Email: ReonshaSullivan2@mail.maricopa.gov